Smithsonian

March 1995

THE DESERT IN BLOOM (p. 78)

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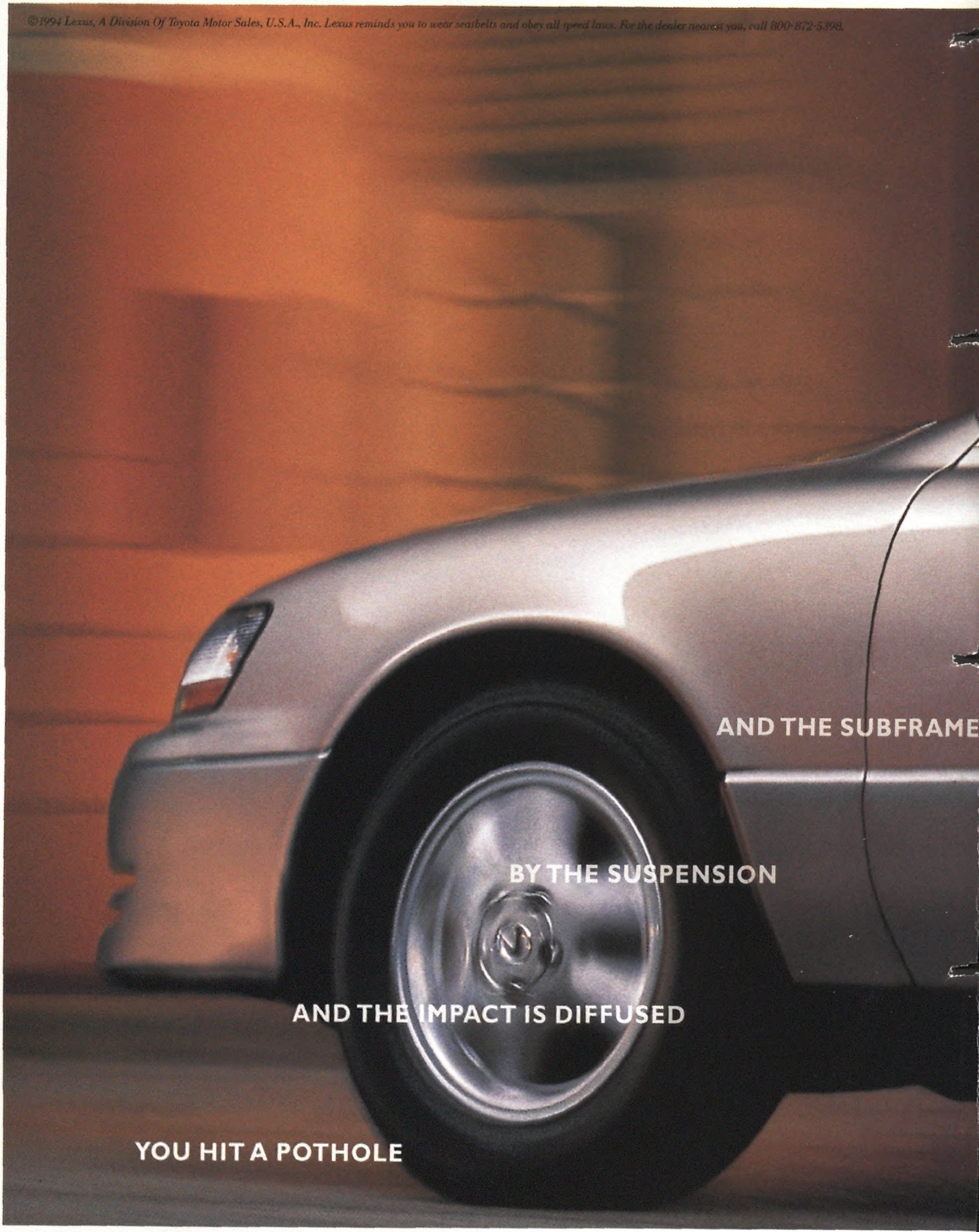

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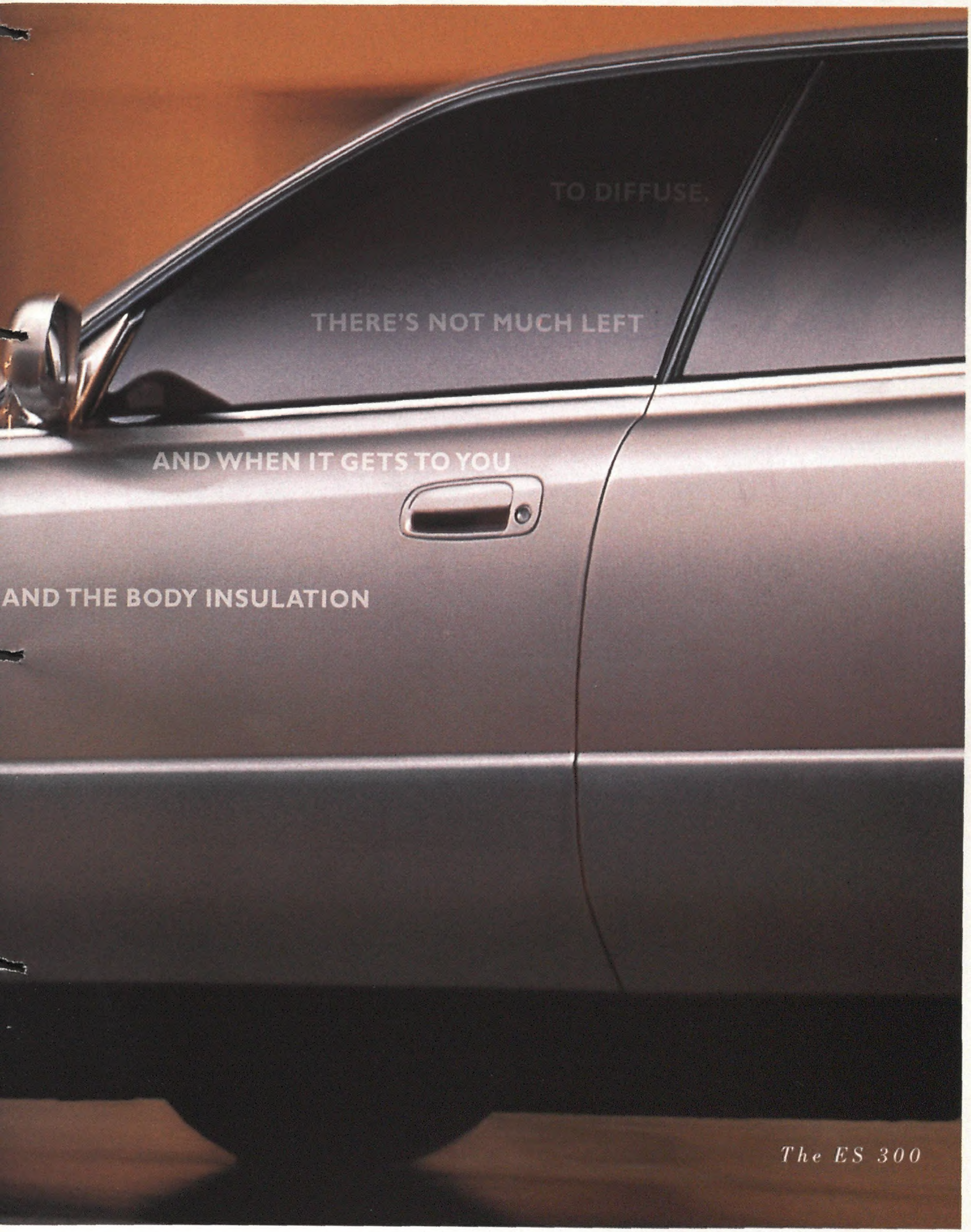

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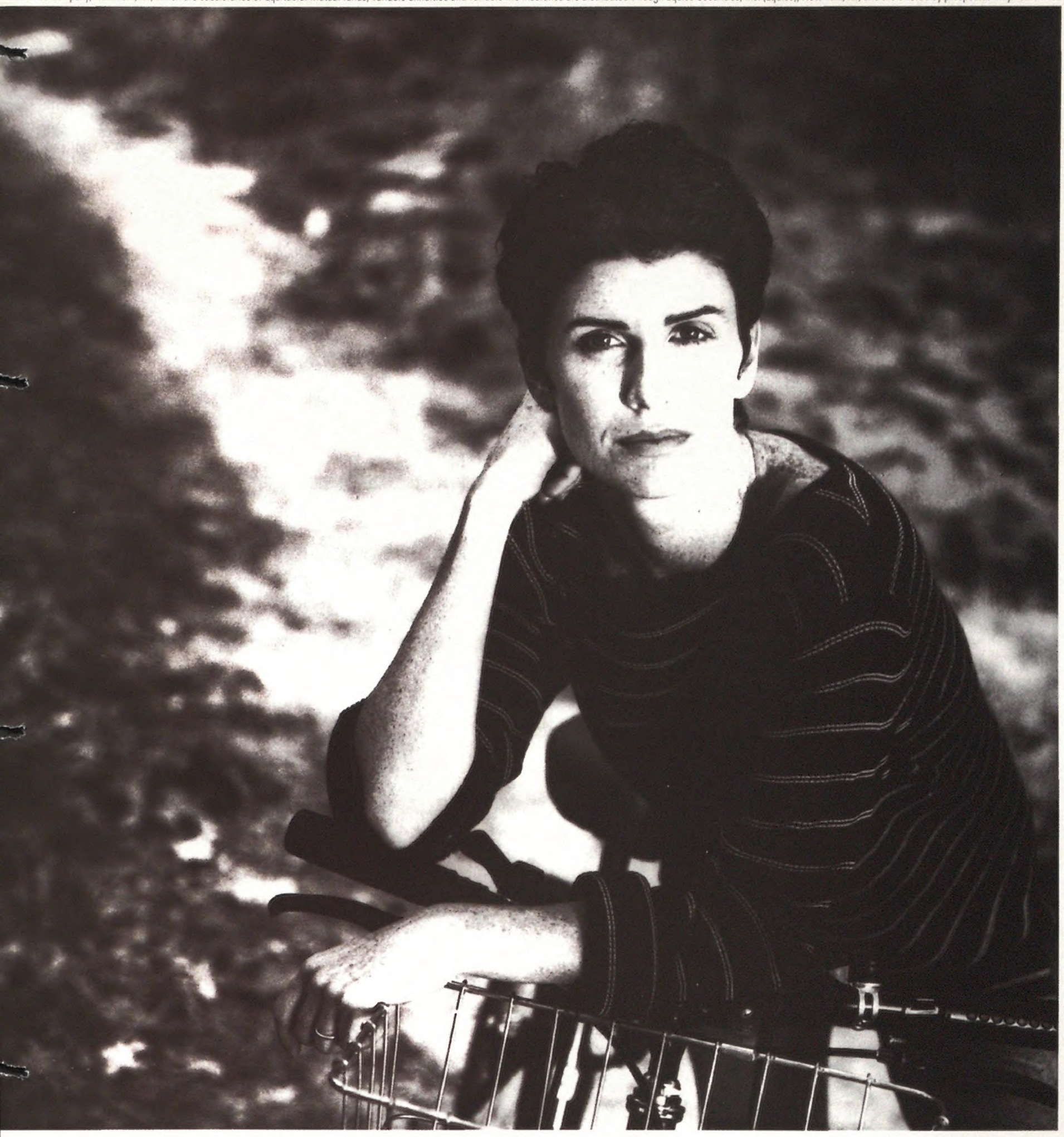

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March 1995

Smithsonian

Volume 25, Number 12

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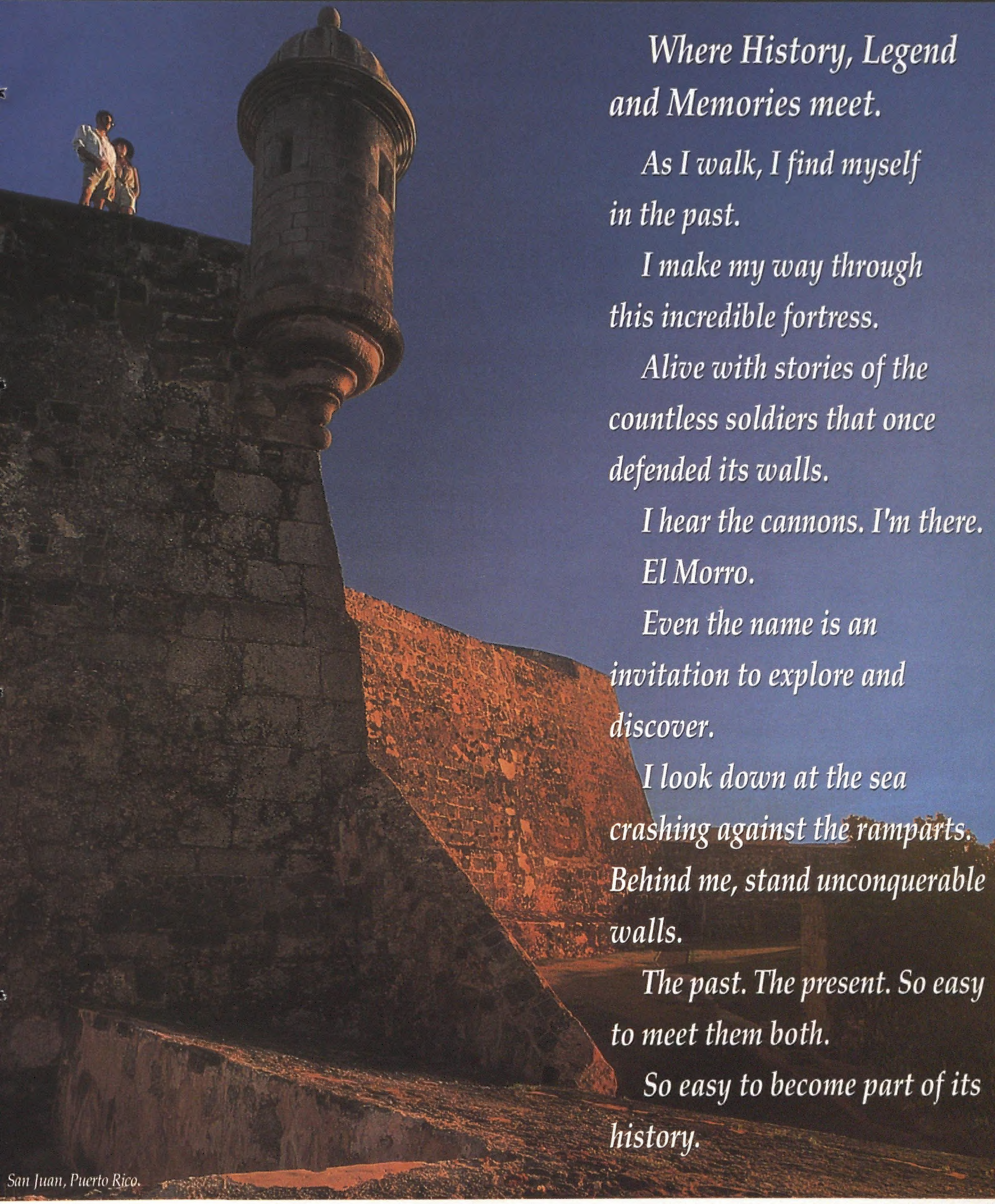

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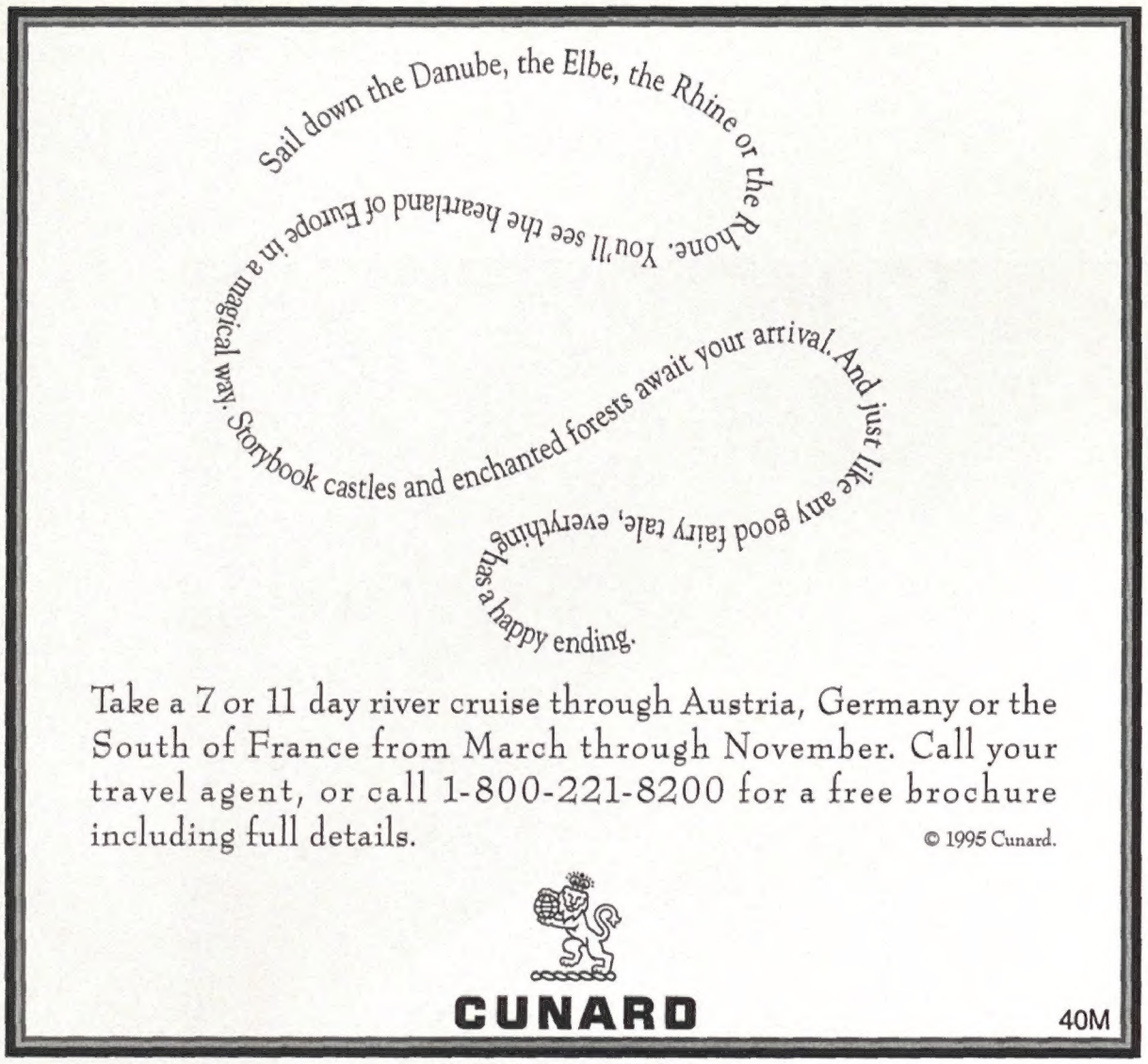
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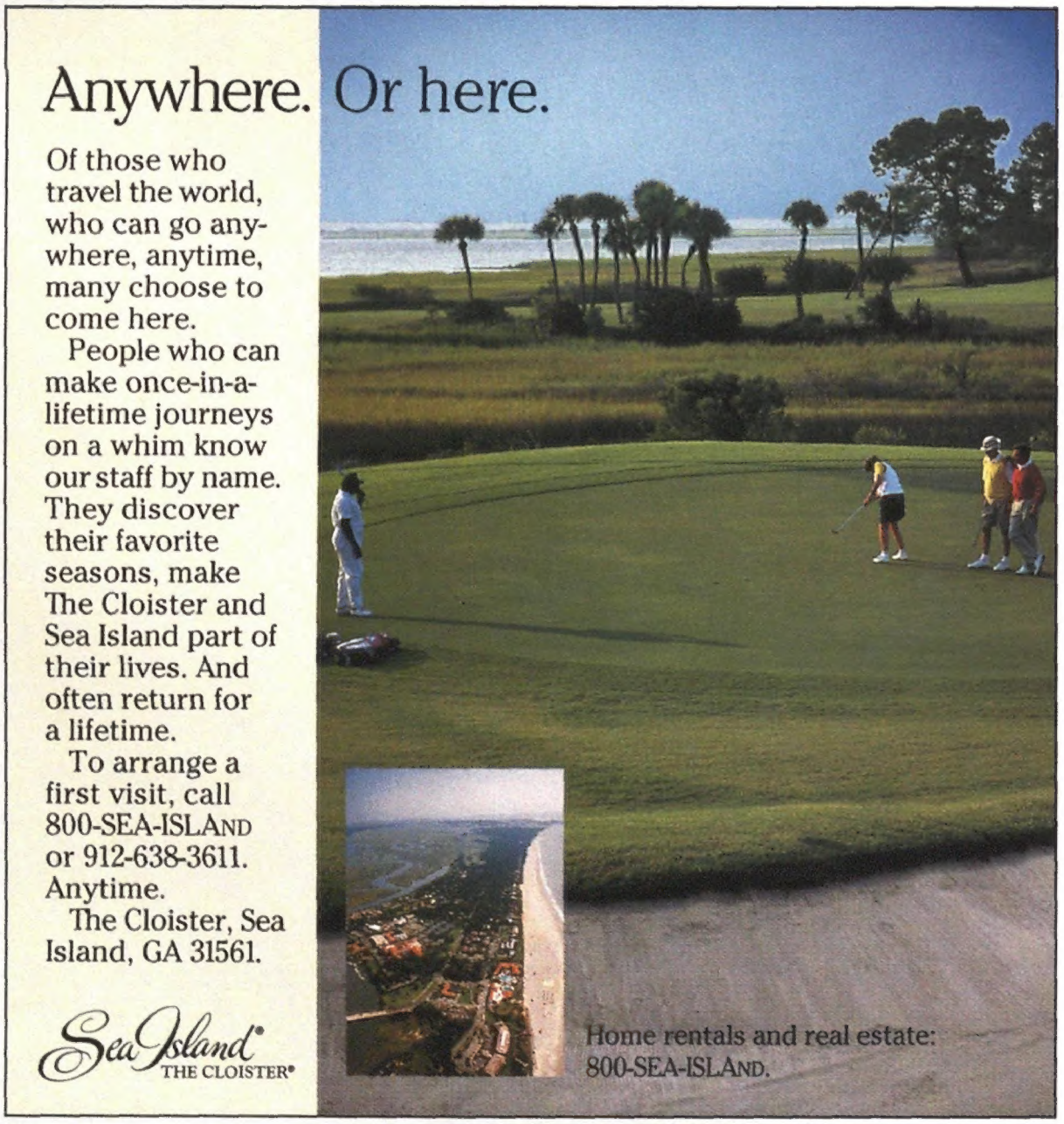
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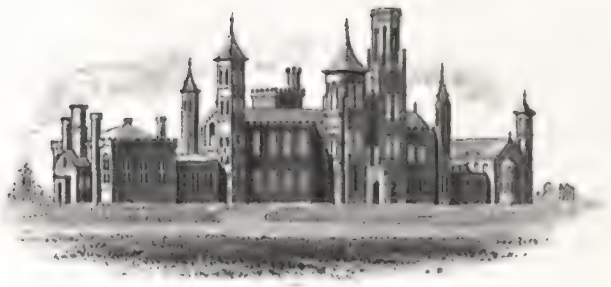
Secretary Heyman's comments

Smithsonian Perspectives



Our historic concern for conservation now leads us into many areas related to endangered species and biodiversity

Inside the Castle, near the south entrance, hangs a 19th-century photograph of some bison grazing on the National Mall. Alarmed about the dwindling bison herds, the Smithsonian's William T. Hornaday had acquired the animals for breeding stock; they later contributed to bison recovery and formed the nucleus for what would become the National Zoo.

Indeed, from its earliest days the Smithsonian has been a leader in biological studies relevant to conservation and resource management. In its second decade, under the leadership of Assistant Secretary, and later Secretary, Spencer Fullerton Baird, the Smithsonian published a series of studies on animal life to be found along the possible routes for a transcontinental railway. Later the Institution was central to and instrumental in the formation of the U.S. Biological Survey, a portion of which survives to this day in the National Museum of Natural History.

There, Interior Department scientists still have responsibility for curating the North American collections. Similarly, part of the Agriculture Department's Laboratory of Systematic Entomology is based in the museum, where it has ready access to collections. The museum continues to be one of the major forces in the field of systematic biology, which carries out studies of different life-forms and their relation to one another. This information is essential to the conservation and management of our biological resources and important for research in the new forms of molecular and genetic biology.

In his 1867 annual report the Smithsonian's first Secretary, Joseph Henry, felt impelled to quote a statement on baseline science from the president of the Linnéan Society of London:

"The peculiar condition of the North American continent requires imperatively that its physical and biological statistics should be accurately collected and authentically recorded, and that this should be speedily done. . . . The larger races of wild animals are dwindling down. . . . Myriads of the lower orders of animal life, as well as of plants, disappear with the destruction of forests, the drainage of swamps, and the gradual spread of civilization. . . . in North America the change is going forward, as it were, close under the eye of the observer. This consideration may one day give great value to the reports of the naturalists sent by the government, as we have seen, at the instance of the Smithsonian Institution and other promoters of science, to accompany the surveys of new territories."

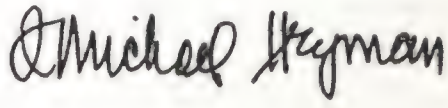
If that statement was true then, it is even more relevant today as soaring extinction rates threaten to eliminate countless forms of life, many of them still unknown to science, just at the moment when they are beginning to hold unprecedented economic promise. Indeed the very future of the biological sciences may be impoverished as wild areas around the world—the natural laboratories for our scientists—vanish.

A case in point is Suriname and Guyana, the location of our longstanding project on the biodiversity of the Guianas. These countries are now threatened by rapid and potentially destructive development. Accordingly, in his new Smithsonian post as Counselor for Biodiversity and Environmental Affairs, biologist Thomas Lovejoy is working with relevant parties in both countries to seek positive alternatives.

On other fronts, our research programs range from studies of the potential effects of climate change on biological communities to studies of tropical forest plots around the world, from investigations of habitat fragmentation in the Amazon to the biology of endangered species. Our exhibitions are equally wide-ranging: at the National Museum of American History, Jeffrey Stine curates materials having to do with environmental history, and the "Ocean Planet" exhibition opens at the National Museum of Natural History on April 22.

Recently we have created a Council on Biodiversity and the Environment with representation from all relevant parts of the Institution. Given the variety of activities throughout the Smithsonian, there should be opportunities for synergy and the prospect of useful initiatives. For example, along with the economic think tank Resources for the Future, the Smithsonian is planning a seminar series for interested parties focusing on the relationships between ecology and economics; an ecologist and an economist will be paired to conduct each seminar.

I believe that the Smithsonian can provide a useful neutral forum to advance dialogue and debate, a forum where difficult and complex topics can be discussed in a good-natured and balanced way. Accordingly, for the 25th anniversary of Earth Day in April we will host a conference on biodiversity and endangered species. Inevitably it must consider the Endangered Species Act, legislation that has generated much controversy. The conferees, who will include both ecologists and representatives of industry, will consider our experience with the Act and examine whether there are better ways, including use of the marketplace, to implement its purpose more effectively. The debate should be lively and constructive.



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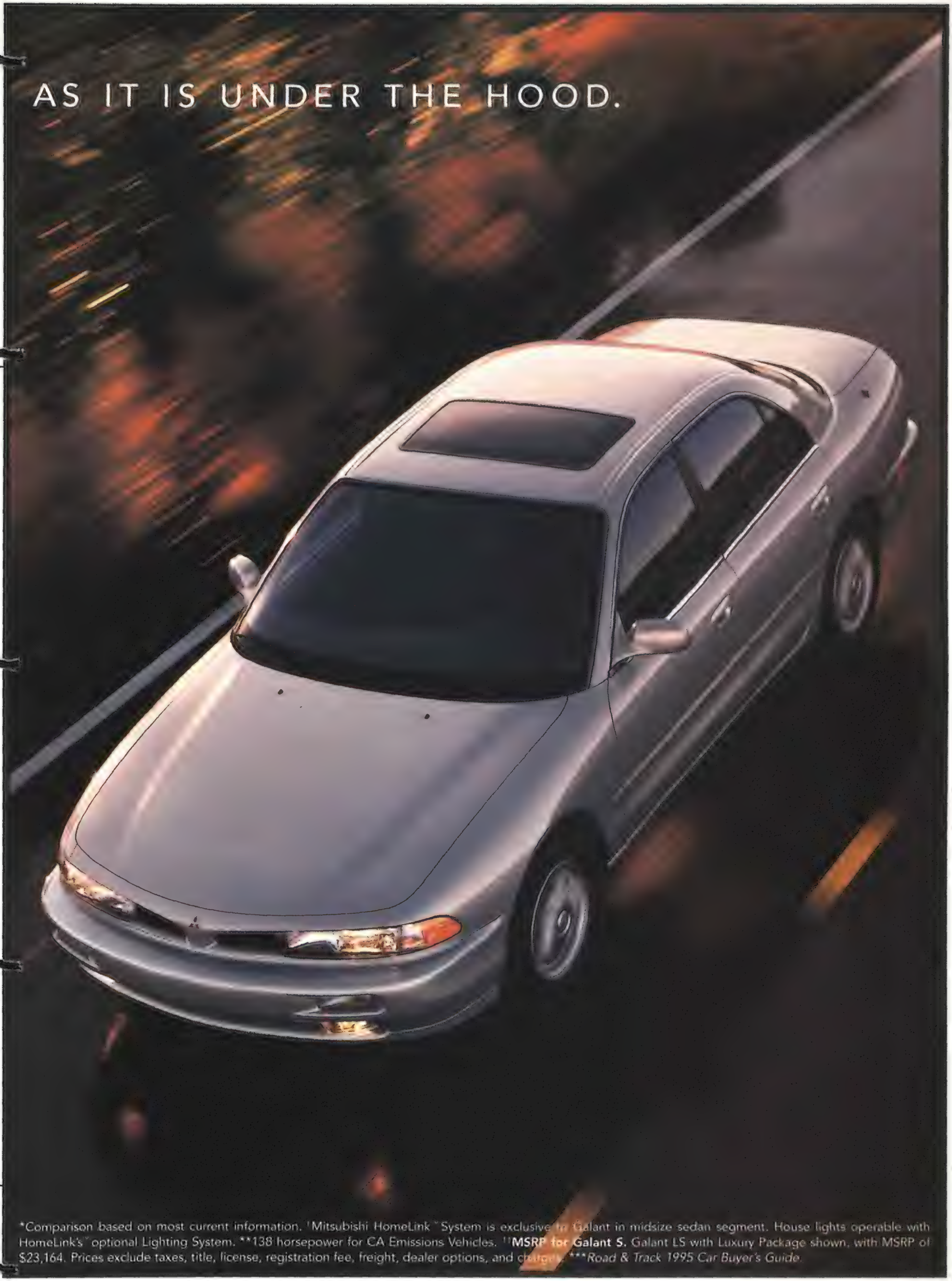


*Comparison based on most current information. ¹Mitsubishi HomeLink ˜ System is exclusive in Galant in midsize sedan segment. House lights operable with HomeLink's ˜ optional Lighting System. **138 horsepower for CA Emissions Vehicles. ††**MSRP for Galant S.** Galant LS with Luxury Package shown, with MSRP of $23,164. Prices exclude taxes, title, license, registration fee, freight, dealer options, and charges. ***Road & Track 1995 Car Buyer's Guide.

Letters to the Editor

Malapropisms

Dear Sir: In the January issue of your valued pericardial there is a *delictus* article on malapropisms by notified arthur James J. Kilpatrick. In it he remarques, "It is uncanny the way some of these solipsisms turn out." This is truly existential pro's.

I subsume Mr. Kilpatrick attended to con readers into thinking he made an era, but I, for won, know batter: he knows batter too, recognizing a solecism when he seize won.
Berthold W. Levy
Melrose Park, Pennsylvania

Dear Sir: A teacher in an excellent school of a fashionable nearby suburb, whose name I discreetly withhold, told my nephew Jay that something was "taken for granite." Jay mildly objected but was rebuffed. "It means solid, like a rock," the teacher insisted. And it is hard to deny that it does mean something close to that.
C. Stan Ogilvy
Mamaroneck, New York

Dear Sir: I commend you to patients' charts in any hospital in the nation and you will find Mrs. Malaprop alive and well. The lode is inexhaustible: "He was eating his tray so I didn't examine him"; "For his impotence we will discontinue the meds and let his wife handle him"; "He was advised to force fluids through his interpreter"; "Patient has an electric chair for transportation"; "She slammed the phone down on the nurse"; "When she fainted, her eyes rolled around the room"; "Patient walks six blocks now. The doctor told him it may take a year to come back."
William R. Appel
Hilmar, California

Dear Sir: The local newspaper's announcement of my first marriage caused me to wonder just what was going on at the reception: "Favors were flowers for the women and girls and cigars for the men."

I surely missed out on something.
Robert J. Zets
Warrenton, Georgia

Dear Sir: A neighbor who had had a small mishap in a local grocery store finally settled, although she'd been holding out for a larger compensation. The reason? "I was afraid the Statue of Liberty would run out."
Pauline Vigevno
Westminster, Maryland

Dear Sir: The slogan from our nearby tire supply house: "If it's in stock we've got it."
Ellen Hinds
Elgin, Texas

Dear Sir: A piece of mail I sent to New York City was returned to me with the inscription: "Occupant does not live at this address."
Daniel M. Lundquist
Schenectady, New York

Dear Sir: An acquaintance told me her brother no longer gets around well enough to visit her because "the cartridges in his knees are shot."
Glenn C. Maxham
Duluth, Minnesota

Dear Sir: A reader of a local newspaper's call-in column disagreed with another reader's comments about "punchious violence," saying, "I think it is people who are overconcerned with punchious violence in this community who give Salisbury a bad name. . . ."

The paper responded: "The Speak Out in question . . . contained an error. That caller was referring to the role of 'Pontius Pilot' [sic] in denying the role of Christ."
Arthur M. Horn
Nanticoke, Maryland

Dear Sir: Too beet a dead hoarse two death, won mite call "Hart Felt," an owed eye recently rote, a site fore soar ayes: "There are deer / And dear / And to the ear / Which is which is quite unclear. / And there again / Is hart to heart. / But to the knowing hart / It's always clear / A hart is a dear / To another deer."

Homophonically yores.
Jack E. Bray
Polson, Montana

Dear Sir: Is a "prefix menu" a before-the-menu menu or a delicious new "Frenglish" variant?
Naomi F. Baxter
Palm Beach Gardens, Florida

Dear Sir: A recent obituary described the deceased as "a warm, generous and imminently sociable man." Sad that he apparently never made it.
Roger C. Prince
Pittstown, New Jersey

Dear Sir: I read in Ed McBain's novel *Widows* of a dog with "a narrow ridge on his palette." I'm aware of setters and pointers, but painters?
Leo P. Driessen
Kaukauna, Wisconsin

Dear Sir: A candidate in a local election was described in the press as a "former" veteran. What must one do to stop being a veteran?
Edward J. Huber
Huntington, New York

Dear Sir: Trying to remember how to spell "hors d'oeuvres" tends to get upon my n'oeuvres.
Dean A. Grennell
Mission Viejo, California

Canada geese

Dear Sir: Perhaps we should also concentrate our efforts on those idiots who persist in feeding these pests and are undeterred by disapproving looks and discouraging words from others.
Mary W. Reiter
Villa Park, Illinois

Erling Kagge pulling his equipment sled across an ice ridge, photographed by expedition member Borge Ousland.

It sounds simple enough: be the first to get to the North Pole under your own power.

Consider what that entails: no dogs to pull the sleds, no aircraft to drop provisions, and no mechanized transport.

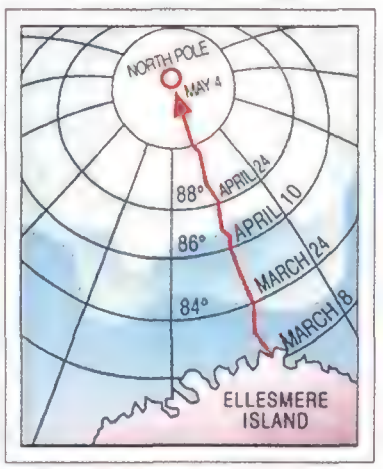
Randby, Kagge, and Ousland.

"It seemed impossible. But we had to try."

Erling Kagge

Nevertheless, three Norwegians, Erling Kagge, Borge Ousland, and Geir Randby set out from Canada to achieve the impossible.

"The Arctic is a sea surrounded by continents," explains Kagge. Accordingly, their attempt to reach the North Pole had to be made when the sea was frozen. Many of the ice floes the team traversed were drifting south at up to 11 miles a day. "So, while trekking north, we were also sailing south."

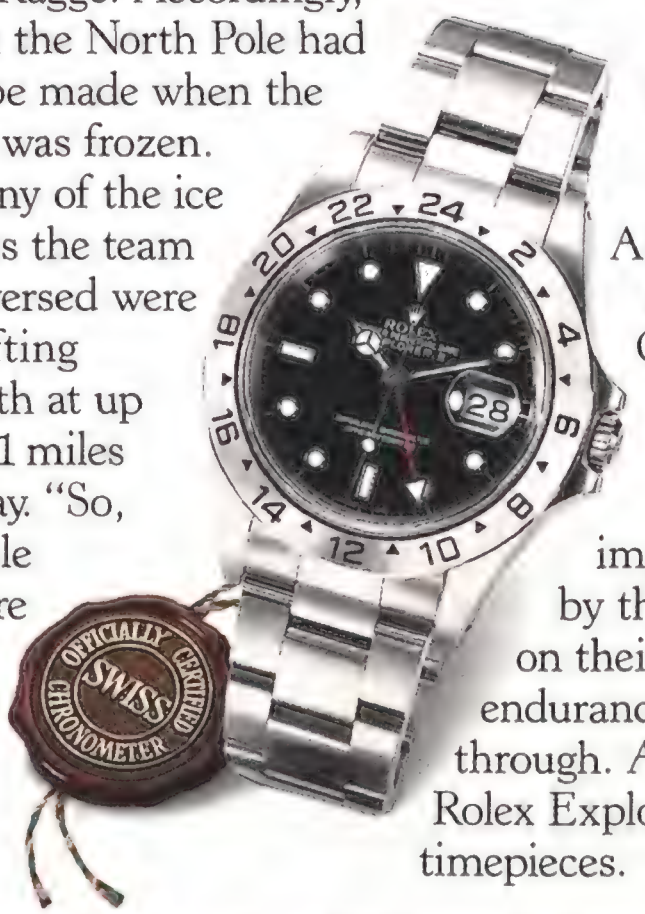


Expedition route to the North Pole.

Traveling on skis, each man pulled 265 pounds of equipment on his sled. Everything they took was subjected to the same scrutiny; if it wasn't essential, it wasn't included. Among the indispensable items were their Rolex timepieces. "Compasses are unreliable in the Arctic, so our watches had to be absolutely dependable. Each day at noon we checked our bearings with a ski pole. Where the shadow fell was due north," Kagge says. This was simple navigation, but effective.

They traveled 478 miles in temperatures as low as -65° F. Although Randby was injured and had to be evacuated, Kagge and Ousland reached the North Pole 58 days after starting this grueling expedition.

What to many seemed an impossible adventure was achieved by these polar explorers. They relied on their strength and endurance to see them through. And, on their Rolex Explorer II timepieces.



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Rolex, ♛, Oyster Perpetual, Explorer II and Oyster are trademarks.

John P. Leemhuis sr.

Dear Sir: Your recent article disturbed me. The whole concept of packing up living things and relocating them reeks of the standard way in which we have always dealt with inconvenient beings and situations, forcing ill-conceived and inhumane solutions on those in a somehow less powerful position than we.
Kathy Fennelly
Brookline, New Hampshire

Dear Sir: We, like they, are opportunists. We, like they, move into an area and take over. We, like they, are efficient "eating machines." Gosh, no wonder we're mad at the geese: subconsciously, they remind us of ourselves.
Jan Joki
Arcata, California

Battle of Lake Erie

Dear Sir: In the mid-19th century, Comdr. Franklin Buchanan was ordered to establish a naval school at Fort Severn, Maryland. President James K. Polk instructed that the Navy's collection of battle flags, including Oliver Hazard Perry's "Don't Give Up The Ship," and enemy flags that had been seized be transferred to the school. To avoid capture during the Civil War, the school was moved in 1861 to the Atlantic Hotel in Newport, Rhode Island, and returned to Fort Severn in 1865.

The naval school celebrates its 150th anniversary this year, and the celebrated "Don't Give Up The Ship" remains prominently displayed in Bancroft Hall, where it continues to inspire new generations of midshipmen at the U.S. Naval Academy.
Capt. Douglas K. Rush, USNR
Corpus Christi, Texas

Dear Sir: The *Niagara*, Perry's relief flagship in the famous battle, was raised at Misery Bay where she'd been allowed to sink after the War of 1812. She was rebuilt, towed to various ports on Lake Erie and finally put on public exhibition. She was rebuilt again as a 1930s WPA project for out-of-water display and was reconstructed in the 1980s. As the U.S. Brig *Niagara* [above], she visits ports on Lake Erie and the East Coast.

The *Lawrence* also was raised from Misery Bay and salvaged. She eventually was sent to Philadelphia for the Centennial celebration of 1876, where her housing was destroyed by fire.
BB Oros
Flagship *Niagara* League
Erie, Pennsylvania

Dear Sir: Nearly 40 years after Perry used immersible pontoons to float his ships across the bar, the U.S. Patent Office issued Patent 6469, titled "Manner of Buoying Vessels." Instead of submerging water-filled floats and pumping the water out, the new method called for lowering floats into water and inflating them. The patent recipient was Abraham Lincoln.
Robert F. Myers
Panama City, Florida

Real French bread

Dear Sir: Lauren Bacall isn't the only one who enjoys Lionel Poilâne's real French bread. So do I. When you have a sandwich with Mr. Poilâne's bread, you have a sandwich.
Evelyn Shewan
Carson City, Nevada

Dear Sir: Yes, French bread is good, Italian bread is good, Irish soda bread is good. But where is the Jewish rye bread of my childhood in the 1930s and early '40s? You could go to any neighborhood grocery in the West Bronx and get a loaf of Pechter's rye bread, which was delivered fresh daily, with or without seeds, with a golden, chewy crust—all for 10 cents a loaf. Best of all was the heel with nothing but butter. It was as different from our soft, packaged supermarket variety as day is from night.
Lillian Tudiver
Brooklyn, New York

Dear Sir: Lionel Poilâne told me he thought his *boule* recipe came from about 1650. He graciously gave it to my wife, who has been baking it large and in the round for me every two weeks ever since. A tip for making a large round loaf easier to use: cut it in half with a vertical slice, then turn one of the halves open-side down, and then slice it as though it were a regular loaf of bread.
John Fitzhugh Millar
Newport House
Williamsburg, Virginia

Robert L. Ripley

Dear Sir: About 1938, Robert Ripley announced in *Believe It or Not!* that he had gone to Hell and had heard Hell's bells, Hell being a town in Norway. This stuck in my 10-year-old mind, and 50 years later a trip to Scandinavia had to include a tour there. I rented a car, named it "Handbasket" and drove straight to Hell in it.
Marvin D. Turner
Hood River, Oregon

Alas, we gave an incorrect e-mail address last month. Please transmit letters for consideration in this column to **simag.edmail@ic.si.edu** *or send them to: Letters Editor,* SMITHSONIAN *Magazine, 900 Jefferson Drive, Washington, DC 20560. Please include your full name, address and telephone number.*

If your doctor says you've got symptomatic benign prostate enlargement, help can be in the palm of your hand.

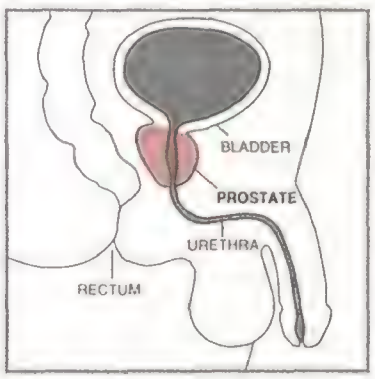
Many men mistakenly believe that an enlarged prostate is treated the same way for all men. But today there are more options than ever. By speaking frankly about your symptoms, you and your doctor can decide what is appropriate for you.

Is this you?	Yes	No
Do you get up more than once or twice a night to urinate?	☐	☐
Do you often have sudden, uncontrollable urges to urinate?	☐	☐
Do you have a hesitant or slow urine stream?	☐	☐
Do you have a frequent need to urinate?	☐	☐

If you answered yes to even one question, tell your doctor. Your symptoms may be caused by a condition called benign prostate enlargement (BPH). But remember, only a doctor can evaluate your symptoms and their possible causes. *While BPH is not cancer and does not lead to cancer, the two conditions can exist at the same time.*

Symptomatic BPH can be treated in several ways. In addition to surgery and monitoring the condition with regular checkups, now your doctor has oral prescription medicines. One oral medicine is PROSCAR, the only medicine for the treatment of symptomatic BPH that can shrink the prostate.

PROSCAR works by blocking a hormone that can cause the prostate to enlarge. *But it is important to know: PROSCAR doesn't work for everyone. Although the prostate may shrink, there may not be an improvement in urinary symptoms. However, in clinical studies with PROSCAR, some men have seen an improvement in their urinary symptoms after 2 weeks. Others have found that PROSCAR took up to several months to help them.* Because all men are different, you and your doctor will need to determine how PROSCAR is working for you.



The prostate surrounds part of the urethra, the tube that carries urine from the bladder. As the prostate enlarges, it can squeeze the urethra and cause urinary problems.

Today you don't have to live with the discomfort of symptomatic BPH. Ask your family doctor or a urologist if PROSCAR is right for you. **For free information that will help you discuss your symptoms with your doctor, call 1-800-770-4841.**

For the treatment of symptomatic BPH

PROSCAR® 5mg
(FINASTERIDE)

The only medicine that can shrink the prostate.

MERCK

Please see the patient information on the next page.

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J4PO47R(302)-MKP4085-4841

PATIENT INFORMATION ABOUT PROSCAR® (Prahs-car)
Generic name: finasteride (fin-AS-tur-eyed)

PROSCAR is for the treatment of symptomatic benign prostatic hyperplasia and for use by men only.

Your doctor may prescribe PROSCAR if you have a medical condition called benign prostatic hyperplasia or BPH. This occurs only in men.

Please read this information, as well as the leaflet which accompanies your medication, before you start taking PROSCAR. Also, read the leaflet each time you renew your prescription, just in case anything has changed. Remember, this leaflet does not take the place of careful discussions with your doctor. You and your doctor should discuss PROSCAR when you start taking your medication and at regular checkups.

What is BPH?

BPH is an enlargement of the prostate gland. After age 50, most men develop enlarged prostates. The prostate is located below the bladder. As the prostate enlarges, it may slowly restrict the flow of urine. This can lead to symptoms such as:

- a weak or interrupted urinary stream
- a feeling that you cannot empty your bladder completely
- a feeling of delay or hesitation when you start to urinate
- a need to urinate often, especially at night
- a feeling that you must urinate right away.

Treatment options for BPH

There are three main treatment options for BPH:

- **Program of monitoring or "Watchful Waiting".** If a man has an enlarged prostate gland and no symptoms or if his symptoms do not bother him, he and his doctor may decide on a program of monitoring which would include regular checkups, instead of medication or surgery.
- **Medication.** Your doctor may prescribe PROSCAR for BPH. See **"What PROSCAR does"** below.
- **Surgery.** Some patients may need surgery. Your doctor can describe several different surgical procedures for BPH. Which procedure is best depends on your symptoms and medical condition.

What PROSCAR does

PROSCAR lowers levels of a key hormone called DHT (dihydrotestosterone), which is a major cause of prostate growth. Lowering DHT leads to shrinkage of the enlarged prostate gland in most men. This can lead to gradual improvement in urine flow and symptoms over the next several months. However, since each case of BPH is different, you should know that:

- Even though the prostate shrinks, you may NOT see an improvement in urine flow or symptoms.
- You may need to take PROSCAR for six (6) months or more to see whether it helps you.
- Even though you take PROSCAR and it may help you, it is not known whether PROSCAR reduces the need for surgery.

What you need to know while taking PROSCAR

- **You must see your doctor regularly.** While taking PROSCAR, you must have regular checkups. Follow your doctor's advice about when to have these checkups.
- **About side effects.** Like all prescription drugs, PROSCAR may cause side effects. Side effects due to PROSCAR may include impotence (or inability to have an erection) and less desire for sex. Each of these side effects occurred in less than 4% of patients in clinical studies. In some cases side effects went away while the patient continued to take PROSCAR.

Some men taking PROSCAR® (Finasteride) may have a decrease in the amount of semen released during sex. This decrease does not appear to interfere with normal sexual function. Rarely, some men have reported breast swelling and/or tenderness or allergic reactions such as lip swelling and rash.

You should discuss side effects with your doctor before taking PROSCAR and anytime you think you are having a side effect.

- **Checking for prostate cancer.** Your doctor has prescribed PROSCAR for symptomatic BPH and not for cancer—but a man can have BPH and prostate cancer at the same time. Doctors usually recommend that men be checked for prostate cancer once a year when they turn 50 (or 40 if a family member has had prostate cancer). These checks should continue while you take PROSCAR. PROSCAR is not a treatment for prostate cancer.
- **About prostate specific antigen (PSA).** Your doctor may have done a blood test called PSA. PROSCAR can alter PSA values. For more information, talk to your doctor.
- **A warning about PROSCAR and pregnancy.**

  PROSCAR is for use by MEN only.

  PROSCAR is generally well tolerated in men. However, women who are pregnant, or women who could become pregnant, should avoid the active ingredient in PROSCAR.

  If the active ingredient is absorbed by a woman who is pregnant with a male baby, it may cause the male baby to be born with abnormalities of the sex organs. Therefore, any woman who is pregnant or who could become pregnant must not come into direct contact with the active ingredient in PROSCAR.

Two of the ways in which a woman might absorb the active ingredient in PROSCAR are:

Sexual contact. Your semen may contain a small amount of the active ingredient of the drug. If your partner is pregnant, or if you and your partner decide to have a baby, you must stop taking PROSCAR and talk to your doctor. If your partner could become pregnant, proper use of a condom can reduce the risk of exposing her to your semen (discuss this further with your doctor).

Handling broken tablets. Women who are pregnant or who could become pregnant must not handle broken tablets of PROSCAR. PROSCAR tablets are coated to prevent contact with the active ingredient during normal handling. If this coating is broken, the tablets should not be handled by women who are pregnant or who could become pregnant.

If a woman who is pregnant comes into contact with the active ingredient in PROSCAR, a doctor should be consulted.

Remember, these warnings apply only if the woman exposed to PROSCAR is pregnant or could become pregnant.

How to take PROSCAR

Follow your doctor's advice about how to take PROSCAR. You must take it every day. You may take it with or between meals. To avoid forgetting to take PROSCAR, it may be helpful to take it the same time every day.

Do not share PROSCAR with anyone else; it was prescribed only for you.

Keep PROSCAR and all medicines out of the reach of children.

FOR MORE INFORMATION ABOUT 'PROSCAR' AND BPH, TALK WITH YOUR DOCTOR. IN ADDITION, TALK TO YOUR PHARMACIST OR OTHER HEALTH CARE PROVIDER.

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Around the Mall and Beyond

By Michael Kernan

The Freer's art is indeed stunning, but the quiet elegance of its new glass cases catches the eye of this visitor

Nobody ever pays any attention to the exhibit cases in a museum. You're not supposed to.

But they have a life of their own, as I was to learn on a recent visit to the Freer Gallery of Art. The Freer, which reopened almost two years ago after a massive $26 million renovation, is filled with treasures of Asian and American art so stunning that I had never stopped to consider the changes that had taken place in the museum itself.

Take those cases, for example. The old cases were beautiful, to be sure, lovingly designed more than 70 years ago by architect Charles A. Platt and Charles Lang Freer himself.

But, as assistant director Patrick H. Sears, who managed the entire reconstruction project, wondered in print, "Weren't the stately walnut exhibition cases with their greenish glass bonnets too high for young visitors and those in wheelchairs?"

Considered state of the art when the Freer first opened in 1923, the cases each stood alone on a sturdy set of legs. Hidden within those legs were shafts that hoisted the glass bonnet up and down so that the curators could put things in or take things out. The innovative gear system that operated the shafts became something of a Freer trademark. But in recent years critics complained about the "sea of legs" that confronted the visitor.

"Plus, they were too high for the Americans with Disabilities Act, a major element in all our designing

now," said Robert Evans, the facilities coordinator at the Freer. Evans, known to some as "Buck," is a reformed Fordham business student turned cabinetmaker who helped rebuild and maintain many of those old cabinets, so he knows what he is talking about.

For the renovation, the designers came up with a simple, less-stylized case using clear float glass, "the clearest glass you can buy, with hardly any iron in it," Evans said. "And the wood for the cabinets is quarter-sawn American black walnut, the most expensive cut, which gives a very straight line of grain." The conventional cut—plain slice, taken straight off the log and not from a pie-shaped wedge of it—gives a far more curving and swirling grain pattern. This cut, it was thought, would result in a busy look. The idea was to make the cases as unobtrusive as possible.

Evans and I had wandered into a gallery of Korean ceramics, and here were a number of cases cantilevered out from the wall, no legs to house hoisting shafts. "Tell me," I asked him, "how do the curators get into these cases?" There is no little keyhole, no thumb grip on the glass, no visible opening at all. Evans showed me that an improved version of the original mechanical system had been ingeniously housed in the cabinetry that hung on the wall.

In the old days, a curator inserted a crank into the bottom of a case and manually turned the gears that hoisted the glass. Now the job is done by an electric motor on wheels. Evans calls it "R2D2." It has extremely low RPMs so it won't create vibrations. A flexible shaft goes into a hole in the case underneath, turns a gearing system—and up goes the glass.

Cases come in different shapes, but these are regular-sized cases. Now we moved into the big-screen room, where the many-paneled Japanese screens used to be displayed bare-naked to the public. Today, for reasons of security and conservation, most of the screens are behind glass.

We are talking about 19 sheets of glass almost 7 feet by 10 feet and more than half an inch thick, plus 14 more sheets for the Chinese scroll room, each measuring nearly 6 feet by 12 feet.

"Glass!" said Evans. "Laminated optical glass from Germany, and in this gallery—antireflecting! The best—huge sheets of it! It took four different companies to make it. Yet they still couldn't

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At one time, all Japanese screens were displayed in the open, like that at left. Now, huge sheets of the world's finest glass protect these treasures.

guarantee against imperfections smaller than a grain of sand. We said we were willing to take the chance, and they said OK, but they couldn't deliver until the critical weeks just before the museum's reopening."

What followed was a saga of sorts. The glass was unloaded from a container ship in Baltimore and brought to Washington on a tractor-trailer. But the sheets wouldn't fit through the Freer's doors, so they had to come in via a 90-ton crane—over the building and into the courtyard. Which meant that the courtyard floor had to be built up to the exact level of the gallery floor so that the load could be rolled in smoothly.

"We had to disassemble a forklift to get it inside the building," recalled Evans. "We had to find an electric one so it wouldn't pollute the air. By this time the artwork was actually going into the museum, and a lot of it was already in place. So we had to be terrifically careful about jarring anything."

The sheets were installed with glass cups. Now, these were not the handheld jobs you see glaziers using to carry plate glass off the truck when they replace a store window. These cups were part of a sophisticated robotic device that permitted the mover to control every movement of a giant sheet of glass as it was fitted into place.

All right, the big cases are finished. Now, how do we get into them to insert the artwork?

Not simple. Evans showed me a series of steps, not unlike a Chinese puzzle box—and elaborately secure from burglars—that allow a staffer to pull out one of the glass side panels. "It's so airtight that when the panel is pulled open with suction cups, there's a great whoosh of air," he said.

In the Chinese scroll room, a 12-foot-high case is entered by pushing one of the glass side panels just a few millimeters into the wall to permit the front panels to slide sideways on a trolley system. A temporary frame, built adjacent to the case, holds the glass while the curators do their thing. "It takes most of a day," says Evans. The biggest sheets of glass can weigh as much as a half-ton each, after all. And they are so massive that they bend. Just a bit. Like the Empire State Building.

Another little detail in the renovation job at the Freer was the rooftop skylights. There are 13 of them and 21 laylights, or windows in the gallery ceilings.

For generations, museums were lit with natural light, and galleries always featured sprawling skylights and glass ceilings. The thinking today, however, is that natural light can damage fabrics and fade colors. As Patrick Sears put it, "Our challenge was to allow for the wonderful variations of natural light while keeping the light within conservation guidelines for extremely fragile works of art."

Also, the original glass windows did not meet code standards. "They were unsafe," Buck Evans remarked. An understatement, it seems. Over the years, Evans told me, those glass panes were known to break, showering sharp glass into the galleries. Fortunately, it never happened when visitors were present, and no one was ever hurt. "Now we have a double layer of glass with a plastic layer between. It's designed to break like auto safety glass. The plastic filters out ultraviolet rays. But at the same time, we matched the look of the old panes. It all looks unchanged."

And track lighting: at last! the critics said. Can't have an up-to-date museum without that. Hardly noticed by today's gallerygoers, the lights introduce a whole new design element. An exhibit designer is in charge of the 20 to 30 different types of lamps, from low-voltage incandescents to fluorescents, as well as innumerable adjustable baffles and screens to achieve an incredible variety of esthetic and conservationally responsible effects. "Now," says lighting designer Richard Skinner, "we can bring out the unique character of each object by choosing from a whole vocabulary, or range, of light sources, combining focused light with natural light."

The same white "cans" of the track lights also conceal smoke detectors, surveillance cameras and other security devices, most of them designed by the Freer's own team of wonder workers.

Another subtle change that I'd never have noticed is that the walls are new, too, with plywood and drywall covering the original plaster and deteriorating vinyl wallpaper. Now paintings hang directly on the walls and no longer from wires, in the Victorian tradition. Still, nothing has been done to change the quiet elegance that makes even Cub Scouts talk in whispers.

So much work, and so invisible. Did you know that a 25-foot-deep hole was dug in the central courtyard? The fountain, 16 feet across, was removed, each stone numbered, and hundreds of tons of dirt taken out through a door via conveyor belt. The new space, part of a 13,000-square-foot expansion, includes three levels of storage and a conservation laboratory. You'd never guess.

Did you know that a good used museum case can easily find work? All but three of the Freer's old ones are on loan to places like the Corcoran Gallery of Art here in Washington and the Walters Art Gallery in Baltimore.

Did you know that the Whistler Peacock Room was cleaned from floor to ceiling? With Q-tips?

- *Standard driver & front passenger airbags*
- *Available anti-lock brakes & traction control*
- *Available integrated child safety seat*
- *Available speed sensitive steering*
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It hardly seems possible. But Dodge Intrepid has a network of as many as fifty-five data sensors and up to seven on-board computers that can process two million pieces of information per second.

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It's amazing, when you stop and think about it. But then, Intrepid's computers work so quickly and efficiently...you probably never will.

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to lower your

MEVACOR® (Lovastatin) is a prescription drug and only your doctor or healthcare professional authorized to prescribe the product can determine whether you should take it.

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everything you can high cholesterol?

Tests prove MEVACOR helps lower cholesterol when diet and exercise aren't enough.

Julia had a heart attack last year.

Her doctor was concerned about her high LDL cholesterol. High cholesterol is serious — especially if you have heart disease or two or more of these risk factors: being a man over 44 or a woman over 54 or past menopause, like Julia... having a family history of early heart problems...high blood pressure...diabetes...cigarette smoking...low HDL ("good") cholesterol.

Julia needed to get her LDL cholesterol down to 100 or less.

New national guidelines say if you've ever had a heart attack, your LDL cholesterol count should be 100 or less. People who have two or more of the risk factors above should have an LDL cholesterol count under 130. You may already know your total cholesterol number, but do you know your LDL? Your doctor can measure your LDL.

Diet and exercise helped, but not enough.

After more than 3 months of strict dieting and exercise, Julia's LDL cholesterol was still very high. The doctor said diet and exercise alone aren't always enough to lower cholesterol to recommended levels. It could be genes or body chemistry; no one knows for sure. He said some people need to add medication to their cholesterol-lowering plan to get results. He thought Julia should go on medication.

The doctor prescribed MEVACOR.

After adding MEVACOR to Julia's diet and exercise program, her LDL really started to go down.

Ask Your Doctor About MEVACOR.

For a free booklet about cholesterol, call 1-800-850-0020.

Tests prove MEVACOR really works.

MEVACOR plus diet and exercise has been proven to lower LDL cholesterol better than diet and exercise alone. And, though it has not been shown that MEVACOR can prevent illness or death from heart disease, MEVACOR has helped many people reach their cholesterol goal and is generally well tolerated. Of course, not everyone gets the same results. And not everyone on MEVACOR reaches their cholesterol goal.

VITAL INTERESTS™: The Patient Support Service from Merck.

This service is available to users of MEVACOR. It offers help in staying with a cholesterol-lowering regimen and a cost savings for certain uninsured patients. If you are taking MEVACOR now, you can enroll in VITAL INTERESTS through your pharmacist, or call **1-800-995-5700.**

Is MEVACOR right for you?

Ask your doctor. MEVACOR should not be used by people with liver disease or possible liver problems, women who are breast-feeding, pregnant women, women of childbearing age unless highly unlikely to become pregnant, or people who are allergic to any of its ingredients. Because of possible serious drug interactions, tell your doctor about any medications you are taking.

There can be side effects.

It's recommended that your doctor perform routine blood tests to check liver enzymes before and during your treatment. Tell your doctor if you experience any unexplained muscle pain or weakness while taking MEVACOR, as this could be a sign of serious side effects. There are other side effects. Be sure to read the next page and discuss them with your doctor.

The most widely prescribed cholesterol-lowering medication in America.

MEVACOR is indicated as an addition to diet for many patients with high cholesterol when diet and exercise are inadequate.

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(LOVASTATIN)

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PLEASE READ THIS SUMMARY CAREFULLY, AND THEN ASK YOUR DOCTOR ABOUT *MEVACOR*. NO ADVERTISEMENT CAN PROVIDE ALL THE INFORMATION NEEDED TO PRESCRIBE A DRUG. THIS ADVERTISEMENT DOES NOT TAKE THE PLACE OF CAREFUL DISCUSSIONS WITH YOUR DOCTOR. ONLY YOUR DOCTOR HAS THE TRAINING TO WEIGH THE RISKS AND BENEFITS OF A PRESCRIPTION DRUG FOR YOU.

WHEN *MEVACOR* SHOULD NOT BE USED: Some people should not take MEVACOR. Discuss this with your doctor.

Allergic Patients: MEVACOR should not be used by patients who are allergic to any of its ingredients. In addition to the active ingredient lovastatin, each tablet contains the following inactive ingredients: cellulose, lactose, magnesium stearate, and starch. Butylated hydroxyanisole (BHS) is added as a preservative. Tablets MEVACOR 10 mg also contain red ferric oxide and yellow ferric oxide. Tablets MEVACOR 20 mg also contain FD&C Blue 2. Tablets MEVACOR 40 mg also contain D&C Yellow 10 and FD&C Blue 2.

Patients with Liver Problems: MEVACOR should also not be used by patients with active liver disease or repeated blood test results indicating possible liver problems. (See WARNINGS.)

Women Who Are or May Become Pregnant: Pregnant women should not take MEVACOR because it may harm the fetus. **Women of childbearing age should not take MEVACOR unless it is highly unlikely that they will become pregnant.** If a woman does become pregnant while on MEVACOR, she should stop taking the drug and talk to her doctor at once.

Women Who Are Breast-feeding: Women who are breast-feeding should not take MEVACOR.

WARNINGS:

Liver:

About 2% of patients who took MEVACOR for at least one year in certain studies developed significantly elevated levels of liver enzymes, as determined by blood tests. (See SIDE EFFECTS.) Patients who had these increases usually had no symptoms. These elevations appear to become more likely as the dose increases. Liver disease with symptoms such as jaundice has been reported rarely at all dosages (see SIDE EFFECTS).

Your doctor should perform routine blood tests to check these enzymes before and during treatment with MEVACOR. The tests should occur every 6 weeks for the first 3 months, every 8 weeks for the rest of the year, and afterwards at about 6-month intervals. If your levels increase, your doctor should order more frequent tests. If your liver enzyme levels increase to an unusually high level, your doctor should discontinue your medication. If these elevations persist after the drug is discontinued, a liver biopsy may be necessary.

Tell your doctor about any liver disease you may have had in the past, and about how much alcohol you consume. In patients who have had liver disease or consume large amounts of alcohol, MEVACOR may be more likely to cause these side effects.

Muscle:

Tell your doctor right away if you experience any unexplained muscle pain, tenderness, or weakness at any time during treatment with MEVACOR, particularly if you have a fever or if you are generally not feeling well, so your doctor can decide if MEVACOR should be stopped.

Muscle Breakdown and Kidney Damage:

Rarely, patients taking MEVACOR can develop severe muscle breakdown or kidney damage. The risk of muscle breakdown is greater in patients taking certain other drugs along with MEVACOR, such as the lipid-lowering drug Lopid® (gemfibrozil), a fibrate, lipid-lowering doses of nicotinic acid (niacin), the antibiotic erythromycin, drugs that suppress the immune system (called immunosuppressive drugs, such as Sandimmune® [cyclosporine]), or azole derivative antifungal therapy (itraconazole). The risk of muscle breakdown is also greater in patients with kidney problems or diabetes.

Because kidney damage from severe muscle breakdown has been seen more commonly with the combination of MEVACOR/gemfibrozil, the possible benefits of combined therapy with MEVACOR/gemfibrozil usually do not outweigh the risks of severe muscle disease, muscle breakdown, or kidney damage. Also, the combined use of MEVACOR with other fibrate drugs should generally be avoided.

Because there are risks in combining therapy with MEVACOR with lipid-lowering doses of nicotinic acid (niacin) or with drugs that suppress the immune system, your doctor should carefully weigh the potential benefits and risks. He or she should also carefully monitor patients for any muscle pain, tenderness, or weakness, particularly during the initial months of therapy and if the dose of either drug is increased. Your doctor may also monitor the level of certain muscle enzymes, or of MEVACOR, in your body, but there is no assurance that such monitoring will prevent the occurrence of severe muscle disease.

Because of a risk of kidney failure with muscle breakdown in patients receiving cyclosporine, lovastatin should be temporarily discontinued if systemic azole derivative antifungal therapy is required. Patients not taking cyclosporine should be carefully monitored if systemic azole derivative antifungal therapy is required.

If you have conditions that can increase your risk of muscle breakdown, which in turn can cause kidney damage, your doctor should temporarily withhold or discontinue MEVACOR. Such conditions include severe infection, low blood pressure, major surgery, trauma, severe metabolic, endocrine, and electrolyte disorders, and uncontrolled seizures. Discuss this with your doctor who can explain these conditions to you.

Muscle Disease and Enzymes:

Temporary, mild elevations in muscle enzymes are commonly seen in patients treated with MEVACOR. However, in certain clinical studies, approximately 0.5% of patients (one in 200) also developed muscle disease, i.e., muscle pain or muscle weakness associated with significant elevations in muscle enzymes. Your doctor should discontinue therapy with MEVACOR if significant elevations in muscle enzymes occur or if muscle disease is diagnosed or suspected.

In studies, about 30% of patients on drugs that lower the immune system (including cyclosporine) and MEVACOR developed muscle disease; the corresponding percentages for patients on MEVACOR and gemfibrozil or niacin were approximately 5% and 2% respectively.

PRECAUTIONS:

Before starting treatment with MEVACOR® (Lovastatin), try to lower your cholesterol by other methods such as diet, exercise, and weight loss. Ask your doctor about how best to do this. Any other medical problems that can cause high cholesterol should also be treated.

Patients with the rare disorder known as homozygous familial hypercholesterolemia are less likely to benefit from MEVACOR and more likely to develop elevated levels of liver enzymes while taking MEVACOR. Your doctor can tell you if you have homozygous familial hypercholesterolemia.

Drug Interactions: Because of possible serious drug interactions, it is important to tell your doctor what other drugs you are taking, including those obtained without a prescription.

MEVACOR can interact with immunosuppressive drugs, gemfibrozil, niacin (nicotinic acid), erythromycin, and itraconazole. See WARNINGS, Muscle.

Some patients taking MEVACOR and coumarin anticoagulants (a type of blood thinner) such as Coumadin® (warfarin) have experienced bleeding and/or increased blood clotting time. Patients taking these medicines should have their blood tested before starting therapy with MEVACOR and should continue to be monitored frequently during early therapy. Once a stable clotting has been documented, clotting can be monitored at the intervals usually recommended for patients on coumarin anticoagulants alone. If the dose of MEVACOR is changed, the same procedure should be repeated.

Endocrine (Hormone) Function: MEVACOR and other drugs in this class may affect the production of certain hormones. Caution should be exercised if a drug used to lower cholesterol levels is administered to patients also receiving other drugs that may decrease the levels of activity of hormones (e.g., ketoconazole, spironolactone, cimetidine). If you are taking other drugs, tell your doctor.

Central Nervous System Toxicity; Cancer, Mutations, Impairment of Fertility: Like most prescription drugs, MEVACOR was required to be tested on animals before it was marketed for human use. Often these tests were designed to achieve higher drug concentrations than humans achieve at recommended dosing. In these tests, some of the animals had damage to nerves of the blood vessels in the central nervous system, including the brain. Others developed certain cancers or tumors of the liver or lung. Male dogs and rats sustained injuries to their reproductive systems. Your doctor can tell you more about how drugs are tested on animals and what the results of these tests mean about safety for you.

Pregnancy: Pregnant women should not take MEVACOR because it may harm the fetus.

There have been rare reports of birth defects in humans taking MEVACOR, including a report of an infant born with birth defects of the skeleton and digestive system. Therefore, women of childbearing age should not take MEVACOR unless it is highly unlikely that they will become pregnant. If a woman does become pregnant while on MEVACOR, she should stop taking the drug and talk to her doctor at once.

The active ingredient in MEVACOR has been shown to produce birth defects in the skeletons of mice and rats given 40 times the human dose or more. No such defects were seen, however, when rats were given eight times the human dose, when mice were given four times the human dose, or when rabbits were given three times the human dose.

Nursing Mothers: Drugs taken by a nursing woman may be present in her breast milk. Because of the potential for serious adverse reactions in nursing infants, a woman taking MEVACOR should not breast-feed. (See WHEN *MEVACOR* SHOULD NOT BE USED.)

Pediatric Use: MEVACOR is not recommended for children or patients under 20 years of age because safety and effectiveness have not been established.

SIDE EFFECTS:

Like all prescription drugs, MEVACOR can cause side effects, and some of them are serious.

Most patients tolerate treatment with MEVACOR well. Side effects that do occur are usually mild and short-lived. In clinical studies with MEVACOR, less than 5 percent of patients dropped out because of side effects. The most common reason was significant increases in liver function tests.

Some of the side effects that have been reported with MEVACOR or related drugs are listed below. *This list is not complete; it does not give the frequency of these side effects which varied from study to study. Only your doctor can weigh the risks versus the benefits of any prescription drug for you. If MEVACOR is prescribed for you, be sure to ask your doctor about side effects at that time and any time you think you may be having a side effect.*

Digestive System: Constipation, diarrhea, upset stomach, gas, stomach pain/cramps, heartburn, nausea, acid regurgitation, dry mouth, vomiting, hepatitis, jaundice, fatty changes in the liver, and rarely, severe liver damage and failure, cirrhosis and liver cancer, loss of appetite, inflammation of the pancreas.

Muscle, Skeleton: Muscle cramps, aches, pain, and weakness, leg pain, shoulder pain, chest pain, joint pain, muscle breakdown. Muscle breakdown can be severe. See WARNINGS, Muscle.

Nervous System: Dizziness, headache, insomnia, tingling, memory loss, nerve disease, nerve palsies, anxiety, depression, tremor, vertigo, facial paralysis.

Skin: Rash, itching, hair loss, lumps, discoloration, changes to hair or nails, dryness of skin or mucous membranes. Causal relationship is unclear.

Senses: Blurred vision, altered taste sensation, eye irritation, progression of cataracts, eye muscle weakness, impairment of eye movement.

Hypersensitivity (Allergic) Reactions: On rare occasions, a wide variety of symptoms have been reported to occur either alone or together in groups (referred to as a syndrome) that appeared to be based on allergic-type reactions, which may rarely be fatal. These have included one or more of the following features: a severe generalized reaction that may include shortness of breath, wheezing, digestive symptoms, and low blood pressure and even shock; an allergic reaction with swelling of the face, lips, tongue and/or throat with difficulty in swallowing or breathing; symptoms mimicking lupus (a disorder in which a person's immune system may attack parts of his or her own body); severe muscle and blood vessel inflammation; bruises; various disorders of blood cells (that could result in anemia, infection, or blood clotting problems) or abnormal blood tests; inflamed or painful joints; hives; fatigue and weakness; sensitivity to sunlight; fever; chills; flushing; difficulty breathing; and severe skin disorders that vary from a rash to a serious burn-like shedding of skin all over the body, including mucous membranes such as the lining of the mouth.

Other: Chest pain, edema (swelling), loss of sexual desire, breast enlargement, impotence.

Laboratory Tests: Liver function test abnormalities including elevated transaminases, alkaline phosphatase and bilirubin, rare reports of thyroid function abnormalities.

Note: This summary provides important information about MEVACOR. If you would like more information, ask your doctor or pharmacist to let you read the professional labeling and then discuss it with them.

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Smithsonian Highlights

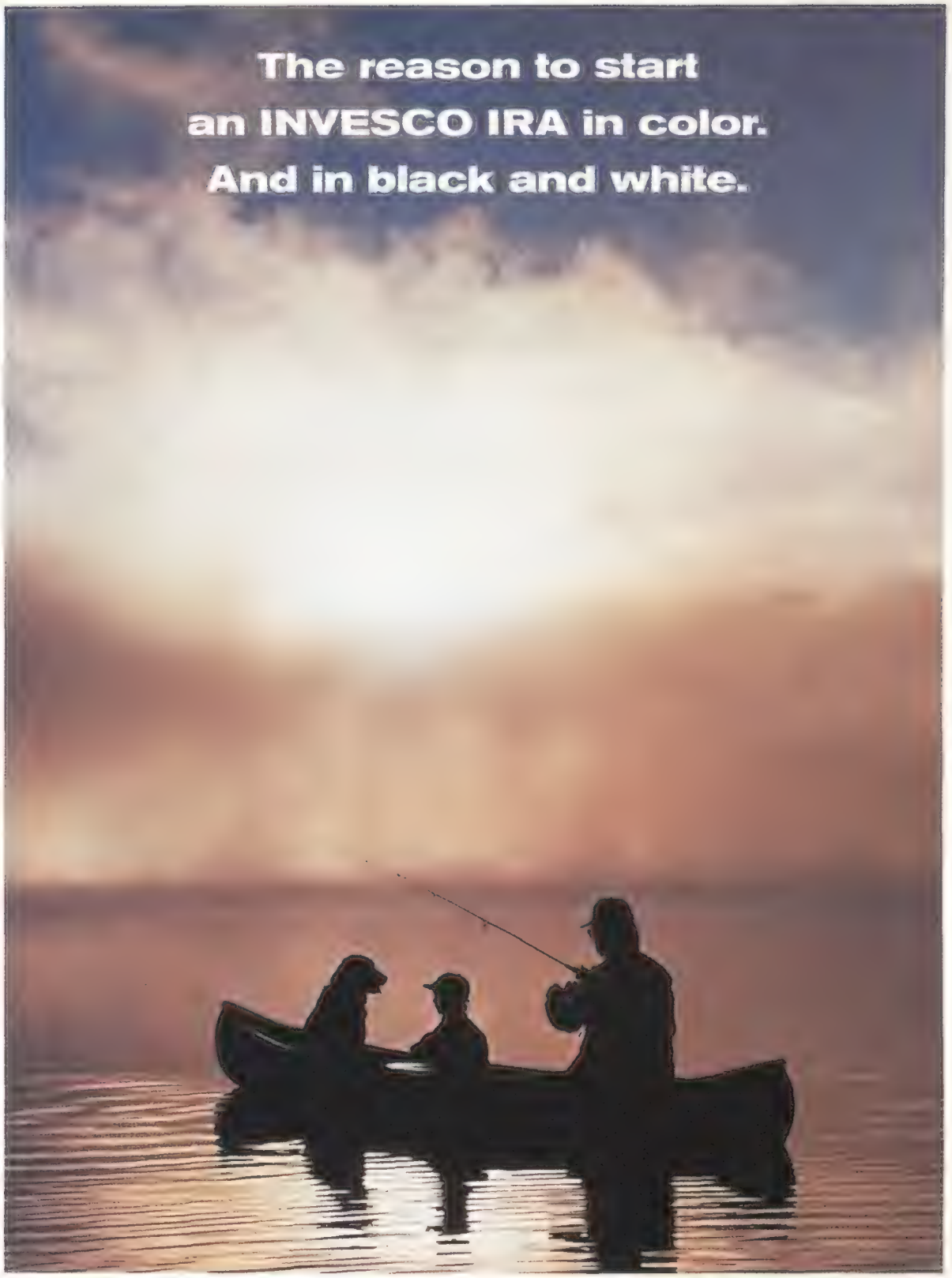
Planning a Smithsonian visit?

Receive a special free Associates' Planning Packet. Write Smithsonian Information, Smithsonian Institution, Washington, D.C. 20560, or call (202) 357-2700, daily, 9 A.M.- 4 P.M.; for callers with communication impairments, TTY: (202) 357-1729. *Note:* Parking near Smithsonian museums is limited. The convenient Metrorail subway system has parking available at some stations (details in packet).

Begin your visit at the Smithsonian Information Center's Associates' Reception Desk—open 9 A.M.- 4 P.M. daily—in the Castle. The National Museum of Natural History's Court dining room offers buffet service daily, 11 A.M.- 3 P.M.

Most Smithsonian museums are open 10 A.M.- 5:30 P.M. daily, except Decem-

Sleeping Child (1961) by Will Barnet will be on view at NMAA through July 4.



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But the absolute best reasons are the colorful plans you've made for your retirement. Those are the most compelling reasons we know to call one of our retirement specialists for a prospectus on the INVESCO Industrial Income Fund. You'll receive more complete information including management fees and expenses. Past performance is no guarantee of future results. Please read the prospectus carefully before you invest or send money.

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[1] The Standard & Poor's 500 Index is an unmanaged index of common stocks considered representative of the broad market. The 15-year periods (20 periods in all) are based on total return from 1/1/61-12/31/75, to...1/1/80 -12/31/94.
[2] Your Money's recommendation of industrial income based on proprietary analysis of performance and expenses as of 7/31/94.
[3] Forbes recommendation in the August 29th, 1994 issue, based on a proprietary analysis which weights, equally, five-year performance, adjusted for volatility, and annual ownership costs, defined as 1/5 of any front-end sales charges plus annual overhead as of 6/30/94.
Total return assumes reinvestment of all dividend and capital gain distributions. Investment return and principal value will fluctuate so that, when redeemed, an investor's shares may be worth more or less than their original cost. Please consult a tax adviser on your specific needs. INVESCO Funds Group, Inc., Distributor.

ber 25. Hours at the National Zoo are 9 A.M.- 4:30 P.M. daily for buildings, and 8 A.M.- 6 P.M. for grounds.

Women's History Month

During March the Smithsonian will celebrate Women's History Month with a variety of programs. For information call (202) 357-2700, 9 A.M.-4 P.M. daily. For 24-hour recording, call (202) 786-2122, starting February 17.

Smithsonian Kite Festival

Kite enthusiasts from around the world will converge on the grounds of the Washington Monument on Saturday, March 25, for the Smithsonian's 29th annual Kite Festival—"Kites Around the World"—cosponsored by the Smithsonian Associates (Resident Program) and the National Air and Space Museum. (Rain date: Sunday, March 26.) For information, call (202) 357-3030.

Smithsonian Craft Show

The 13th annual Smithsonian Craft Show, sponsored by the Women's Committee of the Smithsonian Associates, will be held April 27-30 at the National Building Museum, Fourth and F Streets, N.W., Washington, D.C. One hundred and twenty artists will exhibit and sell work in a variety of craft media. For information, admission fees and advance tickets, call (202) 357-4000. See *Highlights Continued,* page 36.

Musical Weekend

The 23d annual Smithsonian Musical Weekend will be held April 28-30. Highlights include performances by the Miami City Ballet and the Smithsonian's Chamber Music Society, dinners at the Arts and Industries Building and the Arts Club of Washington, and an opportunity to visit the Smithsonian Craft Show. For information, call (202) 973-2118 or (202) 973-2192.

Special March Exhibits, Events

National Air and Space Museum

Aerial Inspirations: Silk Batiks by Mary Edna Fraser (through June 4) Large-scale silk batiks portray the artist's special vision of land, sea and sky.
Where Next, Columbus? Permanent exhibition looks ahead to the next 500 years of space exploration.
Destiny In Space (10:45 A.M., 1 P.M., 3:15 P.M., 5:25 P.M. daily) New Imax film tells the story of human and robotic space exploration.
Universe of Illusions (runs indefinitely) Einstein Planetarium show takes a look at some of the mysteries in the history of space exploration.

Portrait of Ella Wrensted wearing dress adorned with her aunt's photographs is in Ripley Center's "Benedicte Wrensted."

National Museum of Natural History

Gem and Mineral Hall The Gem and Mineral Hall will be closed for renovation until December 1996. The Hope Diamond will be on view on the second floor of the Rotunda.
Giant Squids Permanent exhibit showcases the world's largest invertebrates.
O. Orkin Insect Zoo Newly renovated insect zoo features various insect habitats and an unusual look at insects in your home.

National Zoological Park

Amazonia Permanent installation recreates a microcosm of the world's largest rain forest and river habitat.

National Museum of American History

My Fair Lady (opens March 14) Handicrafts for state and local fairs give insight into lives of 19th-century women.
Balloons: The Birth of Flight, 1783-1793 (through April 1) Books and objects from the Smithsonian Libraries.
Women in Action: Rebels and Reformers, 1920-1980 (through April 2) Exhibition commemorates the 75th anniversary of women's right to vote.
With Pen and Graver: Women Graphic Artists in the 19th Century (runs indefinitely) Photographs, prints, books, cards, plates and other graphics.
Science in American Life Permanent exhibit tracks advances and discoveries in science over the past 125 years and features a hands-on science center.

National Postal Museum

Located next to Union Station on Capitol Hill, the new museum presents exhibitions tracing the history of the nation's mail service.

Freer Gallery of Art

Beyond Paper: Chinese Calligraphy on Objects (through April 21) Clay, lacquer, metal, jade, bamboo and wood objects date from the 7th to 19th century.
Ancient Egyptian Glass (runs indefinitely) Fifteen small, jewel-like vessels made during the second millennium B.C.

Arthur M. Sackler Gallery

A Basketmaker in Rural Japan (through July 9) Woven bamboo backpacks, fishing creels and storage baskets by Japanese basketmaker Hiroshima Kazuo.
Landscape as Culture: Photographs by Lois Conner (through May 30) Large-format platinum prints by the contemporary American-born photographer.

National Museum of African Art

Grace Kwami Sculpture: An Artist's Book by Atta Kwami (through March 27) Contemporary Ghanaian artist Atta Kwami's recently created book explores the artwork of his mother, Grace.
Royal Benin Art in the Collection of the National Museum of African Art (runs indefinitely) Works from the 15th to the 19th century.

Hirshhorn Museum & Sculpture Garden

Directions—Cindy Sherman: Film Stills (March 15-June 25) Series of 70 photographs, from 1978 to 1980, suggests stills from Hitchcock-style B movies and portrays artist in various disguises.
The Collection Reviewed: Modern Art (runs indefinitely) Exhibition features works by George Bellows, Piet Mondrian, Alberto Giacometti and others.
The Collection Reviewed: Contemporary Art (runs indefinitely) Newly acquired, newly created, newly conceived works from the late 1950s to the present.

Arts and Industries Building Discovery Theater

When Lions Could Fly (through March 11) *Cupid and Psyche* (March 14-April 1)

Text continues on page 32

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People and nature can live in harmony, according to John Sawhill, President of The Nature Conservancy. For instance, bison at the Conservancy's Tallgrass Prairie Preserve in Oklahoma share miles of pristine grassland with tourists and scientists. To protect and preserve the land, The Nature Conservancy gets corporations, landowners and private

and 300 bison,

a single traffic jam.

citizens to work together to help. The goal: safeguarding the environment without destroying jobs or businesses. That's a goal General Motors shares. So we're supplying funds, talent and even the GMC Trucks used to maintain Tallgrass. John says, "The Conservancy gets results you can walk around on." And the results are truly spectacular.

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National Portrait Gallery
Majestic in His Wrath: The Life of Frederick Douglass (through November 19) Exhibition marking the 100th anniversary of Douglass' death presents the story of his life and legacy.
Recent Acquisitions (through May 29) Exhibit includes caricatures by Alfred Frueh and photographs by Harry Warnecke.
Federal Profiles: Saint-Mémin in America, 1793-1814 (through May 29) Portraits from early Federal America.

National Museum of American Art
The Color of Abstraction (March 17-August 27) Show highlights the museum's holdings of color field paintings, including works by such artists as Sam Gilliam, Gene Davis and Kenneth Noland.
Will Barnet: An Intimate View from the Museum's Collection (March 17-July 4) Small installation presents key paintings, prints, newly acquired drawings.
Jim Nutt (through May 21) Retrospective surveys work of the internationally recognized contemporary painter.

Renwick Gallery
Full Deck Art Quilts (March 17-April 30) A deck of playing cards was the inspiration for this unique show of quilt art, organized by quilt artist Sue Pierce and the Smithsonian Institution Traveling Exhibition Service. See page 119.
Marriage in Form: Kay Sekimachi and Bob Stocksdale (March 31-June 18) Baskets and woven wall hangings by Sekimachi; turned wooden bowls by Stocksdale.

Anacostia Museum
Art Changes Things: The Art and Activism of Georgette Seabrooke Powell (through May 28) The work of the post-Harlem Renaissance artist.
Black Mosaic: Community, Race and Ethnicity Among Black Immigrants in Washington, D.C. (through August 7) Oral histories, art, photographs, other materials, reveal cultural diversity.

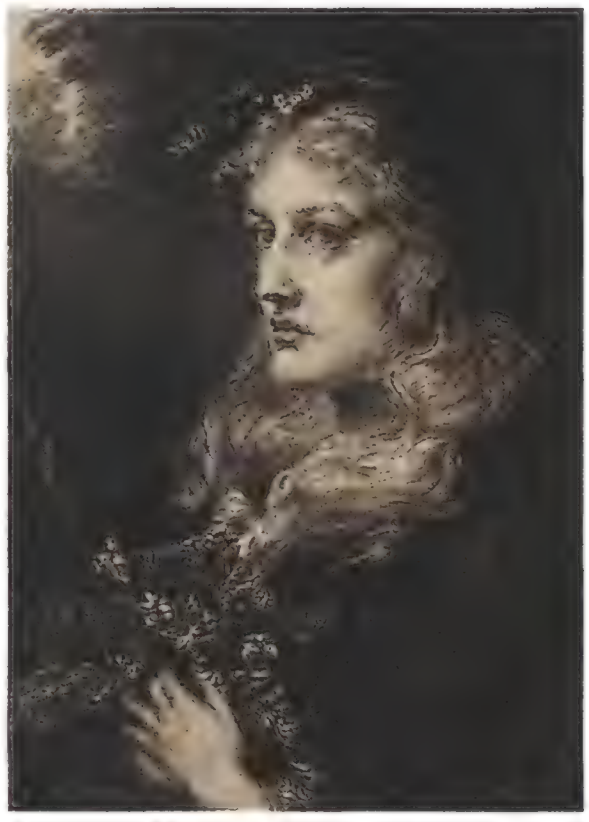
S. Dillon Ripley Center, Concourse and Rotunda Gallery
Benedicte Wrensted: An Idaho Photographer in Focus (March 1-April 2) Portraits taken by Danish-born Benedicte Wrensted in her Idaho studio in the late 19th century document Native Americans and European Americans.

Heye Center, National Museum of the American Indian (New York)
Creation's Journey: Masterworks of Native American Identity and Belief (runs indefinitely) First of three inaugural exhibitions features 165 objects that date from 3200 B.C. to the present.
All Roads Are Good: Native Voices on Life and Culture (runs indefinitely) More than 300 objects, from Ojibwa bandolier bags to Kwakiutl wood carvings.
This Path We Travel: Celebrations of Contemporary Native American Creativity (through July 30) Unique collaborative presentation showcases the talents of 15 contemporary Native American artists.

Cooper-Hewitt, National Design Museum (New York)
Body Language: Jewelry and Accessories at the National Design Museum (March 14-September 3) Exhibition explores the expressive nature of jewelry and its relationship to the body.
Elaine Lustig Cohen: Modern Graphic Designer (through May 23) Show features book covers, books, catalogs, stationery, architectural signage and more.

Exhibition catalogs

Catalogs available currently include:
Where Next Columbus? ($35 cloth)
Jim Nutt ($28.95 paper)
Majestic In His Wrath: The Life of Frederick Douglass ($19.95 paper)
Creation's Journey: Native American Identity and Belief ($45/$29.95 paper)



Anna Lee Merritt's etching *Ophelia* (1880) is in "Pen and Graver" show at NMAH.

Wenceslaus Hollar: Seventeenth-Century Prints from the Museum Boymans-Van Beuningen, Rotterdam ($19.95 paper)
To order, send check or money order to Smithsonian Museum Shops, P.O. Box 1140, Newington, Virginia 22122. Include 15 percent of purchase to cover postage, handling (minimum, $4.50).

Radio Smithsonian

Jazz Smithsonian Listen to the sounds of the Smithsonian Jazz Masterworks Orchestra performing classic jazz from the 1920s to 1960s with host Lena Horne.
Folk Masters Join host Nick Spitzer and masters of traditional American music for programs featuring country ballads, mariachi and blues guitar. For a free copy of the companion *Listener's Guide,* write: Office of Telecommunications, Smithsonian Institution, National Museum of American History, MRC 645, Washington, D.C. 20560.

The Smithsonian Associates, Resident Program

To become a member of the Associates Resident Program, or for fee and ticket information, call (202) 357-3030. March events include:
T. S. Monk Sextet (March 11; 7:30 P.M.) Performance of jazz led by drummer-bandleader T. S. Monk, son of famed musician Thelonious Sphere Monk.
Benedicte Wrensted: A Woman Photographer of North American Indians (March 9; 6 P.M.) Smithsonian anthropologist Joanna Cohan Scherer talks about the remarkable Idaho photographer.
Challenging Power and Authority: Derek McGinty Interviews Derrick Bell (March 29; 7 P.M.) A candid dialogue about the experiences of and implications for African-Americans and other minorities who protest "the establishment."

Smithsonian Institution Traveling Exhibition Service

SITES organizes and circulates exhibitions to cities throughout the United States and abroad. To sponsor a show in your community, write SITES, Smithsonian, Washington, D.C. 20560. Here are some March exhibits:
• New York, New York (March 17-June 4) *Spiders!* American Museum of Natural History.
• Paris, Texas (March 18-April 30) *Before Freedom Came: African American Life in the Antebellum South* (small-format version) Hayden Museum of American Art.

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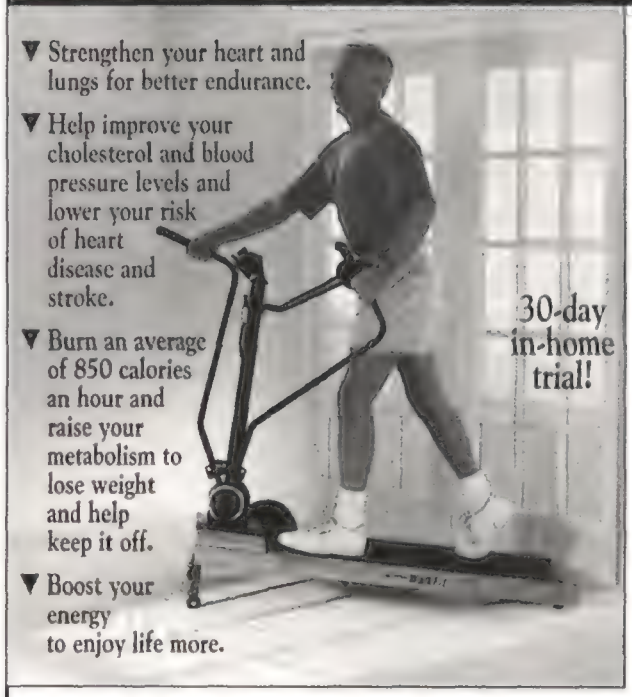
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Highlights Continued

An artful array of American crafts

Coats of many colors to handcrafted chairs; fretted bowls and baskets to a kaleidoscope of glass; jewel-like lacquered handbags to elegantly crafted precious gems—all will be on view April 27-30 at the 13th annual Smithsonian Craft Show, which is moving this year to the National Building Museum at Fourth and F Streets, N.W., Washington, D.C. Organized by the Smithsonian Women's Committee, the juried show and sale will feature 120 artists from across the United States.

"The Smithsonian Craft Show has a strong reputation as a high-quality show," says juror Bruce Pepich who, along with two other jurors, was charged with the task of whittling down 1,270 applicants to 120 participants. "We were looking for an interesting mixture of media and of styles and technical approaches," says Pepich. "Innovative design and personal expression, or soul, were key, but above all we were guided by the level of professionalism exhibited in the execution of the work."

The chosen artists reflect the diversity of their chosen crafts. Raised in the coalfields of eastern Kentucky, Linda Fifield refers to herself as a traditional mountain woman. "I've been working with my hands all my life," she says. For the past ten years she has been turning out wooden baskets embellished with beads. Boston-based artist Marc Levine started out as a jeweler. Now he's combining space-age plastics and Japanese lacquer techniques to create colorful clutch handbags. Husband-and-wife glass-makers Kurt Swanson and Lisa Schwartz work out of a barn in Carmel, New York, to create vibrant handblown glass. New Orleans sculptor John Flemming makes leather come alive in fanciful masks.

For hours, admission fees and advance tickets, call (202) 357-4000.
Diane M. Bolz

Glass bubble vases are by Lisa Schwartz, Kurt Swanson.

Wood-and-leather reclining chair by Robert Erickson and Liese Greensfelder is a variation on the traditional 1930s Morris chair.

Snowy egrets strut in John Flemming's dyed leather mask.

Vivid beaded basket is the work of Linda Fifield.

Fiber art titled *Act Out Your Id* is by Lee Malerich.

Lacquered clutches are by Boston artist Marc Levine.

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By Stanley Meisler

The Hermitage

Its spectacular holdings in art have long been celebrated; but now, as it reaches out to the world, the museum reveals a closely held secret

All roads will lead to St. Petersburg this spring, as the Hermitage opens a much-anticipated exhibit of paintings hidden since World War II and believed lost. For a first look at these masterpieces, see pages 49-53.

The word had come down from the director to Boris Asvarishch to show me some of the paintings hidden for almost a half-century, but there must have been some confusion in the translation. Asvarishch, the curator of paintings in Russia's Hermitage Museum in St. Petersburg, thought I was a curator at the Smithsonian Institution, not a writer for SMITHSONIAN magazine. When he realized the mistake, he said, "Journalist, chhh," snapping his hand downward. "Ehhh" sounded like a dismissive grunt. "I thought you were a colleague, a curator," he said in disappointment.

But, in this new era of Hermitage openness, Asvarishch's unhappiness soon dissipated as he unlocked a door and ushered me into a closed gallery. His face now crinkled in smiles. The gallery had some paintings hung, perhaps Italian, perhaps French, but I barely noticed them. Asvarishch had placed seven unframed paintings against the wall, and they absorbed all my attention: a Van Gogh, a Degas, a Daumier, a Monet and three Renoirs. They came from a cache of more than 70 paintings confiscated from Germany by the Red Army at the close of World War II, most from the private collection of German industrialist Otto Krebs. The Hermitage has hidden them ever since, but in a dramatic reversal

Catherine the Great acquired Giorgione's *Judith* in a 600-work buy from heirs of French baron L. A. Crozat.

of policy, the museum will display them in a special exhibition opening at the end of this month.

Although there are no plans for the exhibition to leave St. Petersburg, all those unable to make the pilgrimage to the Hermitage can still see color reproductions of these masterpieces for the first time. The New York publishing house of Harry N. Abrams, which has just produced a sumptuous two-volume work that covers the Hermitage's regular holdings, is publishing the catalog for the new exhibition as well. (Its title is *Hidden Treasures Revealed—Impressionist Masterpieces and Other Important French Paintings Preserved by the State Hermitage Museum, St. Petersburg.*)

Asvarishch gingerly picked up Vincent Van Gogh's *The White House at Night* and handed it to me. He surely chose this painting, completed just six weeks before Van Gogh's suicide in 1890, because it has been embroiled in controversy for more than a year. A German museum director, invited to look at the confiscated paintings in late 1993, dismissed the canvas as a recent copy of the original. This has been angrily denied by Hermitage officials, and Asvarishch obviously wanted me to have a look for myself. But all I could feel was the awful responsibility of holding something that has not been seen in public since 1928 and might be worth $25 million. The painting, with its vivid colors, looked real enough to me, and I hurriedly returned it.

Asvarishch had his favorite. "The Van Gogh *is* a Van Gogh," he said. "But this is wonderful." He motioned to *Place de la Concorde* by Edgar Degas (p. 49), a spectacular street scene in which the painter placed the printmaker Ludovic Lepic, his two daughters and their dog in one of Paris' best-known plazas. Painted in 1875 and regarded as a masterpiece of innovative composition, *Place de la Concorde* was reproduced in an old black-and-white photograph in a 1988 book-length study of Degas by Robert Gordon and Andrew Forge with the notation, "now lost and believed to have been destroyed in World War II." And there it lay before me.

The upcoming exhibition of confiscated art—a sensational moment in art history—is only one part of a spirited drive by the Hermitage, a museum that ranks with the Louvre and the Prado and the Metropolitan, to open itself to the West after more than seven decades of isolation under the Communists. The exhibition could intensify the clamor for return of these paintings, as well as other confiscated artworks that are still in Russia, but that does not seem to trouble Mikhail Piotrovsky, the 50-year-old director of the Hermitage. A soft-spoken academician, he shrugs and insists that the future of the art is a matter to be settled between governments, not museum directors. But he also makes clear that he, like many other Russian museum officials, sees nothing wrong with the Red Army's confiscation of art from Germany in World War II after the ruthless destruction of

so much art in Russia by the Nazis. "Our obligation is to show these things," he said in a recent interview. "There was no shame in taking the paintings during the war. The shame was not to show them."

Soviet authorities hid their booty with so much zeal that Piotrovsky, whose father had been director of the museum for 26 years before him, did not see the paintings until he was appointed deputy director in 1991, a year before he took over as director. Now, as director, he feels an obligation to take the paintings out of hiding, and he has received permission from President Boris Yeltsin's government to do so.

As part of its opening toward the West, the Hermitage, strapped for funds because of the cut in government subsidies since the end of Soviet rule, has also embarked on a worldwide campaign to raise money for a UNESCO-sponsored restoration and modernization program. The museum's problems range from poor lighting to inadequate tourist information to lack of space to questionable security. Most of the paintings, for example, are guarded by grandmotherly babushkas, some wearing house slippers. A Rembrandt was badly damaged in 1985 by a crazed attacker wielding a knife and sulfuric acid. Friends of the Hermitage chapters have been formed throughout the world, including one headquartered in Bloomfield Hills, Michigan. They are helping to raise the needed $400 million. "The Hermitage is not a national museum of Russia," Piotrovsky, who speaks English fluently, likes to tell gatherings of potential supporters as he travels. "It's an international museum that belongs to all the people in the world."

The Hermitage Museum is one of the most opulent sites on Earth, for it includes the Winter Palace of the Romanov czars, who lived on a scale of lavish luxury rivaled only by the Bourbons and Habsburgs. Its grandeur can be envisioned best by imagining the placement of all the paintings and sculptures of the Louvre within the Versailles Palace of Louis XIV. After First Lady Nancy Reagan toured the Hermitage in 1988, she told reporters she now understood what caused the Russian Revolution. Aside from its grand architecture and magnificent furnishings and stunning galleries, the Hermitage also displays one of the world's finest collections of paintings and sculptures and antiquities: two Da Vin-

The Benois Madonna by Leonardo da Vinci (at left) hangs in an ornate room of the Old Hermitage, one of four "hermitages" that were added to the czars' Winter Palace. The entire complex is now called the Hermitage.

Titian painted *Mary Magdalene in Penitence* in the 1560s; the artist still owned it when he died in 1576.

Rembrandt's inspired portrait of his wife, Saskia, as goddess of spring dates from 1634, the year they wed.

cis, more Rembrandts than any other museum outside the Netherlands, two breathtaking rooms of early Picassos, wonderful Matisses and Van Goghs, sculptures by Canova and Houdon and Michelangelo, impressive Greek and Egyptian antiquities, powerful medieval Russian icons, unsurpassed goldwork of the ancient Scythians and myriad other treasures.

Opening the Hermitage to the West takes the museum and the city of St. Petersburg, known as Leningrad for most of this century, back full circle. Czar Peter the Great founded St. Petersburg in 1703 on the northwesternmost reaches of Russia and moved the capital there from Moscow nine years later because he wanted "a window on Europe." Later in the century, Czarina Catherine the Great assembled the core of paintings and sculptures of the Hermitage because she considered herself a daughter of the French Enlightenment.

You cannot experience the Hermitage fully without understanding its history and its environs. St. Petersburg is still the most cosmopolitan and European of all Russian cities. Crowded with Russian baroque palaces and fortresses and 19th-century apartment buildings hovering over canals, this cold, northern city alongside the Neva River near the Baltic Sea escaped most of the construction of massive Stalinesque government buildings that makes Moscow so ugly. It has retained much of its pre-Communist European appearance. A visitor can wander through the fraying byways of a once-elegant neighborhood and still follow the steps of Raskolnikov in Fyodor Dostoyevsky's *Crime and Punishment.* Nevsky Prospect, the grand boulevard downtown, bustles every winter evening with crowds of fur-hatted shoppers elbowing their way into stores that now display more foreign goods than they have in many decades.

Describing Peter the Great, Joseph Brodsky, the Nobel Prize-winning poet who was born in what was then Leningrad, once wrote that "this monarch of six-foot-six did not suffer from that traditional Russian malady—an inferiority complex toward Europe. He did not want to imitate Europe, he wanted that Russia be Europe, just like he himself, at least in part, was European, just like many of his friends and companions, just like the main enemies against whom he warred. . . ." Peter the Great managed to instill that feeling in the city he founded, and the isolation of Communism never managed to break it down completely.

But Peter had neither the time nor the inclination to collect paintings. That was left to Sophie-Auguste von Anhalt-Zerbst, the daughter of a German princeling, who ascended to the Russian throne amid unsavory intrigue in 1762. Her lover, Count Gregory Orlov, led a palace conspiracy against her husband, Czar Peter III, the weak and unstable grandson of Peter the Great. The czar was imprisoned and then strangled, and his widow ruled Russia as Czarina Catherine the Great for 34 years.

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In 1910 Matisse painted *Music* (above), with a companion piece, *Dance*, for Moscow collector Sergei Shchukin.

Catherine, whose sculpted bust in the Hermitage depicts a woman of steely strength yet serenity, both reflected and encouraged the fascination of 18th-century Russian society with Europe, especially France. It was a time of excited interchange. The new capital of St. Petersburg, still under construction, offered plentiful and lucrative work to European artists and artisans and engineers, while the young Russian elite flocked to Paris and other European capitals for their studies. Exotic Russia—still known as Muscovy in those days—piqued the interest of European intellectuals.

Fluent in French, Catherine kept up a voluminous correspondence with the French philosophers Voltaire and Diderot. Some of the exchanges were warm and even flirtatious. Accusing her of acting like a French coquette without any regard for his age, the 80-year-old Voltaire wrote to the 45-year-old Catherine in 1774, "How can a victorious empress and lawmaker be so flighty?" Diderot described Catherine as a woman with "the soul of Caesar and all the seductiveness of Cleopatra." French poets eulogized the czarina as a generous patron of the arts when she agreed to buy Diderot's library in 1765, allowing it to remain in his hands so long as he lived. Diderot, who wrote novels and plays and edited the first encyclopedia, was even provided with an

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annual stipend to buy more books. She bought Voltaire's library as well; the books of these two great writers of the Enlightenment, annotated in their own handwriting, are still in Russia.

But Catherine's most important purchases were of paintings and sculptures. Advised by both Diderot and Russian diplomat Dmitry Golitsyn, she bought collections whole, in hopes of possessing an assemblage of art that few of her royal peers in Europe could match. In 1764 she acquired her first collection—225 European paintings that had been put together for the king of Prussia but at a price he could no longer afford. Frans Hals' *Portrait of a Young Man with a Glove* and Hans von Aachen's *Allegory of Peace, Art and Abundance* came in this trove. The purchase of these paintings in one swoop, for all practical purposes, marks the birth of the Hermitage Museum.

In 1772 she purchased the 600 paintings of the estate of L. A. Crozat, Baron of Thiers. On her behalf, Diderot signed the 22-page sales contract with the French baron's heirs. Some of the most remarkable Old Masters in the Hermitage come from this purchase, including Giorgione's portrait of a strangely serene and tranquil *Judith* (p. 42), and Peter Paul Rubens' large painting of a contemptuous and (even for Rubens) extraordinarily round *Bacchus*. She purchased Rembrandts wherever she could find them. *Saskia as Flora* (p. 44), Rembrandt's portrait of his young, diffident wife adorned in all the embroidered finery of the goddess of flowers and spring, was acquired from Amsterdam in 1776. *Abraham's Sacrifice*, Rembrandt's dramatic and chilling depiction of the angel staying Abraham's hand as he is about to kill his supine son, came with the collection of 198 paintings she bought from the estate of Robert Walpole, the British prime minister. The flight of those paintings from Britain to Russia infuriated both the House of Lords and Dr. Samuel Johnson.

By 1783, according to a royal catalog, Catherine had collected 2,658 paintings, 10,000 sculptures and carvings, and 10,000 drawings. She had to find space for them. Although she did not exhibit her paintings to the masses, she did like to show them off to her favored friends, aristocrats and intellectuals. She prepared playful rules of conduct for her guests. "One shall not sigh or yawn," warned a placard crowded with other admonitions. At first, Catherine simply installed her artworks in a few rooms in the Winter Palace. The Italian architect Bartolomeo Francesco Rastrelli had designed the palace, with its baroque facade, rooftop statuary and breathtaking staircases; upon its completion in 1762, Catherine had moved in with her unfortunate husband.

Stanley Meisler, European correspondent for the Los Angeles Times *in the 1980s, visited St. Petersburg in December, his first visit since the fall of Communism.*

By the end of that year, she had taken over as mistress of both the palace and the nation. Catherine called the rooms set aside for paintings her "hermitage," from the French word *ermitage*—literally, a home for hermits; figuratively, a refuge.

As the collection grew ever larger, Catherine added connecting annexes to the palace beside the Neva. They became known as the Small Hermitage, the Old Hermitage and the Hermitage Theater. Czar Nicholas I added the New Hermitage in the 19th century. Some of the rooms in the hermitages were as elaborate as the rooms in the palace itself. The Winter Palace and its four annexes are what is known today as the Hermitage.

The czars who followed Catherine added significant works to the collection but at a much slower pace. Alexander I purchased a large collection from Napoleon's first wife, the Empress Josephine, but some of the finest works were purchased singly by art specialists working for the royal household. Franz Labensky, the curator of the picture gallery during the first half of the 19th century, added several Spanish pieces and Caravaggio's *The Lute Player*, a striking portrait that the Hermitage curators now look on as an allegory of love. Ernst Liphardt, an art historian working for the Hermitage in 1914, came upon an unknown Da Vinci in the collection of the brother of the Russian artist Aleksandr Benois, the great-uncle of actor Peter Ustinov, and purchased it for the Hermitage. A merchant from Astrakhan, on the Caspian Sea, had sold the painting to the Benois family many years before; it remains a mystery how the painting made its way to Astrakhan. An early Da Vinci now known as the Benois Madonna, it is an almost playful portrait of the Christ Child grasping at the petals of a flower that the amused Madonna holds between two fingers. The painting hangs in one of the most ornate rooms of the Old Hermitage, a large chamber adorned with a lapis lazuli fireplace and purplish porphyritic columns (p. 43).

Touring the galleries in evening dress

The czars after Catherine did not completely share her devotion to the collection. Although her grandson Nicholas I built the New Hermitage to house many of the paintings and sculptures in splendor, he also auctioned off 1,219 paintings in 1854 that did not please him. He allowed outsiders to view the paintings and sculptures, but they had to obtain an invitation from the palace first and then tour the galleries in evening dress. Alexander II appointed the first director of the Hermitage, in 1863. This director—Stepan Gedeonov—eventually opened many of the galleries to the public and eliminated the foolish dress code. Under his leadership, the Hermitage soon took on the aspect of an all-encompassing museum like the Louvre. He encouraged

Text continues on page 54

The Missing Paintings

This spring at the Hermitage, 74 Impressionist and Postimpressionist works of art—which have been hidden since World War II and were thought by many to have been lost forever—will go on view. Here are seven of the masterpieces, beginning, on this page, with *The Dancer* (at left) and *Place de la Concorde* (below), both by Degas.

Picasso's *Absinthe* is closely related to other studies he did in 1901 depicting the habitués of Paris cafés.

In *Ballerina* (left), from early 1927, Matisse set the dancer against four bold, abstracted bands of color.

Monet's 1876 painting of his Argenteuil garden is so luxuriant that the woman seems to merge with nature.

In his *Old Woman Near a Mantelpiece*, painted about 1895, Vuillard showed his mother at home, looking into a mirror—a scene the artist transformed into a vibrant tapestry of color and ornamental pattern.

Houses Along a Road uses a motif seen in many of Cézanne's paintings from the late 1870s to the early 1880s: a turn in the road. He found it a natural way to organize and tie together various planes in the work.

Scythian gold comb with classical Greek influence, fourth century B.C., was unearthed in the Dnieper Valley.

the staff's interest in Egyptology and archaeology, overseeing the transfer of Egyptian holdings from the Russian Academy of Sciences to the Hermitage. He also organized the first excavations of the gold ornaments of the Scythian people, who dominated the steppes north of the Black Sea from the seventh to the third century B.C. (above). An 1885 guidebook to St. Petersburg reported that 50,000 people a year visited the museum. By 1914 it was 180,000.

The Bolshevik Revolution of 1917 increased the holdings of the Hermitage but also isolated it from the rest of the world. At a signal from the Russian cruiser *Aurora*—the firing of a blank shell—the Bolsheviks stormed the Winter Palace in October 1917 and arrested Premier Alexander Kerensky and his provisional government; he had taken power after Czar Nicholas II abdicated in the face of popular uprisings seven months earlier. The dining room in which Kerensky was arrested is still maintained as part of the royal rooms of the Hermitage, and the *Aurora*, now a monument, is moored a mile away in the Neva River.

At first, there were fears that the Communist government of V. I. Lenin would destroy the Hermitage; they had carted away most of the paintings and sculptures during the revolution and transferred them to Moscow. Before the Communists removed him as director of the museum, Count Dmitry Tolstoy said to a French news correspondent, "Tell the civilized world that Russia no longer has the Hermitage." But the new government soon returned the artworks, decreed that the Winter Palace itself would become part of a complex known simply as the Hermitage, and bestowed upon it scores of artworks confiscated from princes, nobles, aristocrats and wealthy businessmen. Art was now nationalized, seized from the rich in the name of the people.

After the death of Lenin in 1924, the Hermitage both suffered and benefited from Joseph Stalin's distaste for modern art and indifference to other art. Anxious for foreign exchange, Stalin authorized the sale of Hermitage holdings. In all, some 35 masterpieces were lost. Andrew Mellon, the American Secretary of the Treasury, alone bought 21 paintings for $6.6 million in 1931. Later, he donated these paintings to the National Gallery of Art in Washington, D.C., which he founded. Such Hermitage losses as Raphael's *Alba Madonna*, Botticelli's *Adoration of the Magi* and Rembrandt's *Joseph Accused by Potiphar's Wife* are among the National Gallery's most prized masterpieces.

In 1918-19 the Communists confiscated the extraordinary art collections—including works by Picasso, Matisse, Cézanne, Van Gogh and other modern masters—of two Moscow textile industrialists, Sergei Shchukin and Ivan Morozov. They had discovered Pablo Picasso in Paris at about the same time as Gertrude and Leo Stein, and had discovered Henri Matisse years before Dr. Albert C. Barnes. By 1914 Shchukin owned 51 fine Picassos, probably the largest collection then in the world. Both Shchukin and Morozov fled the Soviet Union and never collected again. Originally housed in Morozov's former home, their artworks were divided between the Hermitage and the Pushkin Museum in 1948.

The paintings from these collections are displayed on the third floor of the Winter Palace, in the most nondescript rooms of the entire Hermitage. They hang on cords suspended from ugly iron bars against walls in need of new paint. The rooms crackle with the noise from fluorescent tubing. Yet these rooms shine with as much splendor as all the galleries decorated in red marble and green malachite elsewhere in the museum.

Two rooms brim with an assembly of early Picassos that not even the Picasso museums of Barcelona and Paris can match. All date from the first decade of the century and include Blue Period masterpieces like *The Absinthe Drinker* and *The Portrait of Benet Soler*. In 1909 Shchukin asked Matisse to paint a pair of large pictures for his home—*Dance* and *Music*. *Dance*, depicting five nudes clasping hands in a joyful swirl, repeats a familiar Matisse theme. *Music* (p. 46), with five sedate nudes, none touching, united only by their music, is the unusual and wonderful antithesis of *Dance*.

The gravest danger to the Hermitage came in World War II when the Nazis laid siege to Leningrad for more than 900 days, causing the deaths of perhaps a million Russians. Two-thirds of the collection had been shipped by rail eastward to the Ural Mountains before the Germans encircled the city and cut the rail lines. Although the buildings were struck by 30 artillery shells, the remaining artworks, in the basement, were unharmed. Hunger and death stalked everyone who worked in the museum. "We were worried that we would not be able to pass on our knowledge if we died," director Boris Piotrovsky (the father of the present director) told a Russian journalist a few years ago, "and that then someone would have to start everything from the beginning." The siege was so terrible that it is easy to understand why the people of St. Petersburg see no reason to return the paintings taken from the Germans.

As the Hermitage begins to take its place as an international museum with nothing to hide from the rest of the world, director Mikhail Piotrovsky seems ideally suited to lead it. In addition to Russian and English, he speaks German, French and Arabic. His mother is Armenian; his late father, half Russian, half Polish. Unlike most Soviet citizens, he was privileged to spend time outside the country. He studied Islamic archaeology and art at the University of Cairo and led a Soviet archaeological expedition to Yemen. On top of this, he knows the Hermitage well, for he grew up there.

In the post-Communist era, Piotrovsky must raise money, and he now spends a third of his time soliciting funds, either from the government or from foreign sources like the Friends of the Hermitage. He is intent on expansion and modernization so that the annual 2.5 million visitors to the museum will see more of the Hermitage's three million pieces of art; only 5 percent to 10 percent is now on exhibit. But most important, he is insistent that the Hermitage approach problems like the confiscated German paintings in a new way. "In the Cold War the idea was, if you had a problem, hide it," he says. "Now the idea is to open it up and try to solve it." That attitude of Piotrovsky's lies behind the unusual exhibition of the paintings seized by the Red Army, an exhibition that will attract international notice and help propel the Hermitage and St. Petersburg from isolation and, echoing the era of Peter the Great and Catherine the Great, into the world at large.

Made of wood when Catherine the Great ruled, the Winter Palace's main staircase was rebuilt in marble after a fire in 1837. At Epiphany the czars descended these steps on their way to consecrate the Neva River.

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Jeep
Eagle

By Wendy Mitman Clarke

Around the world solo in a sailboat: What does it take?

It takes stamina, humor, planning—not to mention hanging from a line 60 feet up, over waves the size of a house, in gale-force winds

Imagine being alone on the ocean for five or ten weeks. You're sailing in snow, ice and spray cruel as needles. The wind belts you like a prizefighter. Waves swell as tall as houses. The boat is your only haven, yet it throws you like a bronco. Amid all this, you must eat, sleep, navigate, find the quickest route, tiptoe the fine line of sailing fast but not boat-breakingly fast, handle every problem from sprained wrist to snapped mast, and carry on.

This is what Steve Pettengill contemplated during his four-week layover in Cape Town, South Africa, last November. Pettengill is one of 20 competitors from seven countries who entered the BOC Challenge, a single-handed, round-the-world race that happens every four years. They began in Charleston, South Carolina, and after stops in three ports along the 27,000-mile route—Cape Town, Sydney and Punta del Este, Uruguay—they will end up in Charleston late next month.

In Cape Town, the relative calm of the Atlantic Ocean was behind them. Preparing for the frigid fury of the southern latitudes, the racers stocked new food, fixed broken equipment, beefed up weak points in their boats and rigging, repaired old sails or got new ones for the windy leg ahead, and tried to find a quiet moment to gather their thoughts.

We caught up with 43-year-old Pettengill, of Middletown, Rhode Island, five days before he and the other racers left Cape Town, following his progress until he pulled into Sydney on Christmas morning. Here, then, is the account of what it takes to prepare for and then to sail one leg of a round-the-world race.

Off the coast of Rhode Island in late summer 1994, Steve Pettengill gave *Hunter's Child* a series of trial runs.

Tuesday, November 22, 10 A.M. Steve Pettengill is poring over the laptop computer at his navigation station, studying weather maps. Being inside the cabin of 60-foot-long *Hunter's Child* is a little like sitting in a teacup; at the teacup's center is the nav station. A bright-red fiberglass seat, straight out of a *Star Trek* set, sits on a swivel before a red table. The chair faces a phalanx of electronics, radar screens, computers, radios and instruments towering to the cabin's ceiling. At the top is a

In mid-September he and 19 other competitors sailed out of Charleston Harbor to start the BOC Challenge, a 27,000-mile round-the-world solo race. He hopes to be the first to finish in Charleston, sometime in April.

portable CD-and-cassette player strapped in with bungee cords. At the bottom is a row of small digital screens with labels: "windspeed true," "wind direction," "windspeed apparent" and, in bright-red letters, "fun factor" (that's boat speed). The chair and table are gimballed, so as the boat leans to one side or the other, Pettengill can sit perfectly level to work.

Pettengill studies the weather maps every day, and this is about as still as he ever gets. A lean 6 feet 2 (he averages 175 pounds but burns them like a racehorse), he is a quietly bubbling geyser of energy and humor that every now and then erupts into a big round laugh. On a racing sailboat, where progress depends on reading and responding to wind and waves, his incessant activity—trimming sails, changing sails, tweaking this, modifying that—translates into speed.

"He was the best America could put on the starting line," says Warren Luhrs, chairman of Hunter Marine,

Photographs by Billy Black

the company that is sponsoring Pettengill. Steve's in-the-bones knowledge is born of years on the water. Growing up in the Midwest, he went on long cruises with his family and learned to sail and race on the Great Lakes. Later, in Newport, Rhode Island, he raced in several short, single-handed events, a sort of minor league training for the majors. He opened a business aimed specifically at modifying and preparing boats for racing. After years of working behind the scenes, helping other racers' projects succeed, he finally has his chance at the brass ring with this BOC.

Pettengill finished Leg 1 in just over 40 days, placing second and earning the best American finish ever among the 60-foot boats. A 38-year-old French engineer, Isabelle Autissier (below), the only woman racing, won the leg. Her finish some five days ahead amounted to a four-game sweep of the World Series. But though they win awards for each leg, the race's end result is cumulative. Autissier wants to be the first woman to win it; Pettengill wants to be the first American to do the same.

Arriving at 3 A.M., October 23 in Cape Town—with a five-day lead—Isabelle Autissier won the race's first leg.

They know, as does every racer, anything can happen. Josh Hall, a veteran of the last BOC, never made it to Cape Town in his 60-footer this time around. Early one evening, 30 days into the leg, he steered off a wave and hit something so hard the impact smashed him into the wheel. In an instant, his boat was doomed.

"Seawater was simply gushing in through the compromised bulkhead and a crack in the bottom of the hull. I have never felt so scared in all my time at sea, and I desperately tried to organize my thoughts." He issued a Mayday, called race control and started pumping nearly 5,000 gallons an hour as darkness descended. Nine hours later, another competitor picked him up; they sailed off so as not to watch his boat go under.

Tuesday November 22, 2 P.M. Hunter's Child is blasting across Table Bay in about 20 knots of wind. Steve is letting the autopilot steer while he and his right-hand man, David Barnaby, wrestle what looks like an enormously long, fat snake on the boat's deck. It's really a sock enclosing a new sail. The one it's replacing resembled a grass skirt after an abrupt wind shift laid *Hunter's Child* on its side 48 hours from Cape Town, and the sail knotted itself in the rigging. "Took me two hours to get it down," Steve says, cringing as he describes slicing a whole corner of the sail to free it. That was a cool $6,000.

The sock system makes it easier for one person to handle such a large sail without the wind's greedy fingers snatching it out of control. David and Steve raise one end of the enclosed sail to the top of the mast on a halyard. Then, using a system of lines and pulleys on the sock itself, they tug on a line, and the sock slowly slides to the top of the mast, exposing the sail to the wind so it billows open. Satisfied with it, they tug another line, and the sock comes down again, swallowing the sail.

An accomplished sailor himself, David is something like a Formula One pit crew, waiting in each port to attend to the sailboat and its skipper. Nearly every boat has such a crew, whether family, friends, local volunteers or hired help. They follow their racer's progress, order and ship replacement parts, pay the bills, answer the mail, triple-check every inch of the boat, help tie the countless loose ends that tangle every boat during a layover.

Wednesday morning, November 23. "I guess we don't need Guadeloupe and Haiti. St. Lucia, Martinique, no, I don't think we're going there." Steve is sorting charts, getting rid of those from Charleston. The racers must take charts for any ports they may need to visit in an emergency.

"Heard Island. OK, so this is that island we have to stay north of. OK, these two . . ." Steve's voice wanders off, mumbling latitudes. He throws the charts for Brazil, South

Spectators and press thronged the harbor in Cape Town to greet the BOC boats as they arrived. During the layover there, skippers and shore crews prepared for the bone-rattling leg in the southern latitudes.

America and other places onto the floor, to be taken off the boat. Like other spare equipment, the charts will travel with *Hunter's Child*'s shipping container. A stubby tractor-trailer, it meets the boat at each stopover and serves as traveling workshop, boatyard, chandlery and storage bin, full of tools, extra food, sails, rigging, lines, anything and everything the boat and its skipper might need.

After cleaning the heads on his cassette player with a Q-tip and stove alcohol, Steve pops in an Eric Clapton tape. Then he opens a Tupperware container and starts sorting spare parts, taking some out. This perpetual search for extra weight consumes any spare moment. Every fraction counts on a boat that is built to be light and fast. Pulling out his equipment manuals, he removes extra paper.

"Weight. Weight." He whistles. "Paper's heavy. Y'ever pick up a box of paper?"

Sunlight butters the cabin. From above filter sounds of David working on the mast. The peace, so close to the restart, is as luxurious as a long, hot bath. In Charleston, where the boats were moored in the heaviest tourist district, the floating docks were a constant mob of reporters, photographers, tourists, friends and family. Shore crews struggled through the crowds, and often skippers just stayed in their boats, safely hidden from the insistent media. Hoses, vacuum cleaners, water jugs, crates of food, folded sails, piles of line, flats of cardboard shiny with resin and fiberglass remnants, drills, saws and tubes of marine sealant littered the docks as shore crews made last-minute changes up to the day of the start. Skippers, meanwhile, attended mandatory press conferences and sessions to learn how to use the computers and communications equipment they're required to carry. A day out of Charleston, the frenetic pace caught up with Steve, and he spent the first week of his epic voyage battling the flu.

Here in Cape Town, at the Royal Cape Yacht Club, the boats are more isolated, surrounded by a working waterfront of ships, tugs and fishing vessels. With one leg finished and the boats mostly intact, the frantic screwing and gluing of parts and equipment that marked much of the final week in Charleston is absent. Reporters pester, but not in swarms.

Steve has had time to go to the gym every morning to use the Nautilus and rowing machines. And each night he has set his alarm to go off every two hours. While sail-

Wendy Mitman Clarke is the Middle Atlantic bureau chief of Soundings *and has been following the BOC Challenge ever since its start in Charleston.*

Color-coded lines that allow Steve Pettengill to raise, lower or reef his sails lead back to the boat's cockpit.

Patty Pettengill, Steve's wife, stuffs food into boat's "cupboards"—bags that hang from the hull like bats.

Customized for solo racing, the navigation station in 60-foot *Hunter's Child* looks like a set for *Star Trek.*

ing, he sleeps a total of about 5 hours in 24, in naps snatched here and there. Waking up every two hours during the layover, even just long enough to turn off the clock, helps his body get ready.

Wednesday, November 23, 2 P.M. "I got too much cereal here . . . you got Cheerios, you got Grape-Nuts, cornflakes, and you've got this granola." Patty Pettengill, Steve's wife, is loading food onto *Hunter's Child.* Food—and nearly everything else—is stored in a series of mesh, zippered bags that hang on the boat's walls like fat gray bats. Rather than heavy drawers that fly open in rough weather, the bags are light—saving weight—and they stay closed. They also make it easy to grab something on the run. Similar bags beneath and above the two narrow berths on either side of the boat's oval doorway, where Steve sleeps, store his clothes. "I even got you the small-sized mashed potatoes," Patty says.

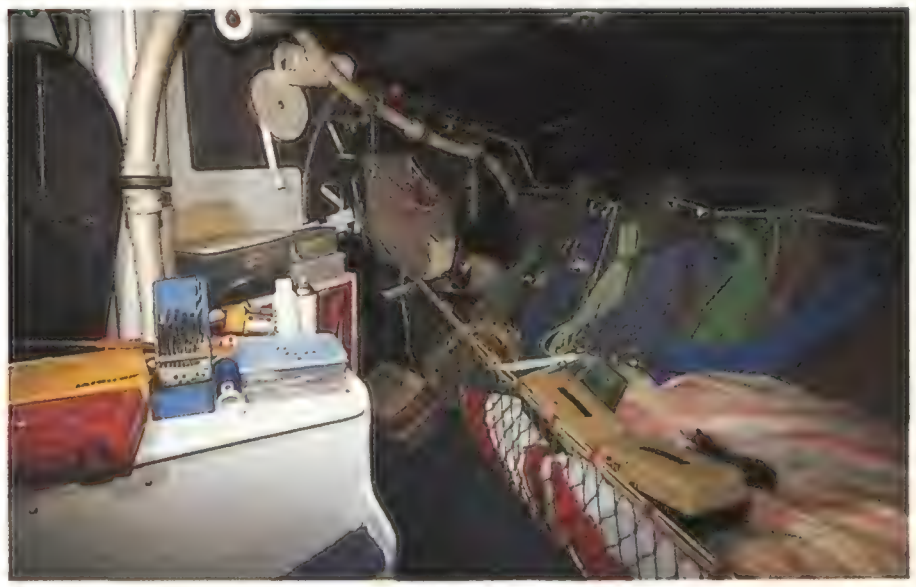
"Boy, we're talkin' treats out there!" Steve is going through a box of heated pads he can stuff into boots to keep his feet warm. "A little red wine, mashed potatoes—hoo! I won't want to come back."

Like many racers, Steve's main meals are freeze-dried or irradiated. The meals, sealed in foil, are light and easy to prepare on the gimballed, single-burner stoves most racers carry: just boil in saltwater, cut open and serve. But Steve also likes plenty of other food. As Patty fills the bags, she labels them with masking tape and a black marker: apple juice, milk, candy, crackers, granola, yogurt, bread, fruit. A local company has given each skipper 12 loaves of long-life bread to try. Steve takes only 3. The rest are too heavy.

Wednesday, 4 P.M. A local television crew has arrived to include Steve and *Hunter's Child* in a feature they're filming about the boats' interiors for *Good Morning South Africa.* Irritated at having to accommodate a TV crew this late in the week, Steve nevertheless quickly warms to them, happily showing off his high-tech home, explaining the nav station, the storage bags, the electronics, the galley, the boat's layout. Why do you do it? the reporter asks. "I've had some good days and some bad days," Steve says. "But the truth is, there are more good days than bad out there."

Everything is here, from high-tech weather-tracking system to cassette player (Steve favors Eric Clapton).

Daily ritual: Pettengill and his shore crewman David Barnaby study a weather map in a Cape Town restaurant.



In the bow, sail bags and tools flank the generator; Steve thawed out here during the freezing second leg.

It's the inevitable question. Some people think these sailors are hermits, ascetics, just plain crazy. But they're like anyone, except that the tidal tug of the moon and the slow breathing of the ocean pulls them more strongly. The ocean plays no favorites; it is here, rather than in corporate boardrooms or on Wall Street, that they choose to test themselves. Patty has a theory that we all evolved from water, and maybe some of us—her husband, for example—aren't ready to leave yet.

Wednesday, 9:45 P.M. A sickly yellow beam plays across the car. Next to the unlit guardhouse, and behind the 12-foot chain link fence, a dark silhouette holds a flashlight, studying the car but making no move to approach. This city is edgy, especially at night. Another man appears inside the fence and motions the car through. Then a quick walk, and Steve is inside the control tower at the Cape Town airport with chief meteorologist Keith Moir. They huddle before a computer screen swimming with lines swirling in strangely beautiful patterns over the tip of South Africa. Printers spurt sporadically; now and then a plane roars past a wall of pane glass. Otherwise, the place is silent but for the wind swatting the building.

Steve is here to get a lesson in reading satellite weather pictures. *Hunter's Child* carries a system that captures satellite photographs around the clock. Still fairly new to the program, Steve analyzes it religiously every day, and while at sea he studies it at least 6 hours out of 24. On Leg 1, that dedication helped him escape a weather system that wallowed like a monstrous jellyfish, entangling other racers in its windless tentacles. But on the coming legs in the southern latitudes, storms roll out of nowhere like bowling balls down an endless alley, birthing waves as big as buildings and mast-snapping winds. On Moir's weather charts, these low-pressure storms look like malignant growths, their looping ridges twisted and gnarled. "In the Southern Hemisphere you really have these small lows," Steve says. "A big low can pop off little puppies."

"Yes. You will find big lows in the 50 to 55 [degrees south] area. The mother system, and then the small ones," Moir says. "One low after another."

Thursday, November 24, 10 A.M. "I used to be a bit of a

In a harness atop *Hunter's Child*'s 85-foot-high mast, David Barnaby checked rigging before Charleston start.

gearhead in high school. I had cut-down and modified dragsters. Used to go out to the racetrack on weekends. I think that's where some of my competitiveness comes from, those days." Steve is peering into the small cabinet housing *Hunter's Child*'s generator. Someone has wired the regulator slightly wrong, and though the batteries are charging, the irregular wiring is bugging him.

Like most BOC boats, *Hunter's Child* is engineless. To charge the batteries that run the autopilot, computers, radar and other electronics, Steve uses a diesel generator and 500 watts' worth of solar panels on deck. Some racers also use wind-powered generators. Aside from being holed or dismasted, losing power is high on the nightmare list: it means losing communication, information and the crucial help of the autopilot, which frees the racers to cook, clean, repair, navigate, sleep and do the other jobs that fill their days and nights at sea.

"My main car was a '63 Corvette, a split-back-window Sting Ray," he says, fiddling with some wires. "I overhauled my first engine when I was about 13 on a Harley-Davidson I had." The generator sits in *Hunter's Child*'s forward compartment, and along both sides of the hull stretch long, taut nets filled with sails that can be hauled quickly through the hatch and on deck. A workshop area has tools, spare parts, extra fiberglass, resins and equipment stashed in Tupperware containers. Pushing a boat 24 hours a day is a recipe for equipment and system failure. A gearhead's paradise.

"Fixed!" He rubs his hands together, points to two wires, mimes how he plucked them out, reversed them. He whistles, and his woolly eyebrows shoot happily up his forehead.

Friday, November 25. The prerace pace is reaching the stretch run. Poster signing at 8:30 A.M., skippers' meeting at 9, weather briefing at 10. As Steve leaves the yacht club, a camera crew tries to pin him at the door. He fends them off for about ten feet, then succumbs to a few questions. The boat, too, is as busy as Penn Station, with computer gurus making last-minute checks, friends coming by to wish him luck, a photographer wanting Steve to come on deck. No dice.

At 2:10 P.M., Patty arrives with two gifts: an 8-by-10 white envelope that says "Open halfway" and a small package tied with red string that says "Open 2nd day." On the nav station, she places a postcard of a leopard cub perched on a log. It says, "Do you miss me yet?"

Saturday, November 26, 12:30 P.M. The floating docks are sinking with the weight of people who have gathered to see the racers leave for the starting line. As each boat is towed from its slip, cheers erupt like fireworks. At 3 P.M., the starting gun sounds, and they are off amid a swarm of boats filled with spectators.

Friday, December 2: 1,200 miles southeast of Cape Town. "Dismasted. No danger immediately." That stark message to race headquarters in Charleston, from race leader Isabelle Autissier, stuns the fleet: a broken metal fitting has shattered her hopes.

"Thirty knots of wind, sea dark, sky crying," she reports a little later. "I'm working to clear off the deck and see what I can do. There is almost nothing left on deck, nothing left of my dream. But I won't think about that now. I am safe." Not ready to give up, she decides to jury-rig a mast and go on to Kerguelen Island: her shore crew is organizing a mast to be shipped there for her.

Swinging in a stomach-churning arc

Saturday, December 3: about 1,400 miles out of Cape Town. Steve is halfway up *Hunter's Child*'s mast making repairs. Lashed to the mast with a thick nylon strap, 40 feet off the deck, he swings through a stomach-churning arc, a tiny weight on an enormous, uncertain metronome wand. Beneath him the boat plods through angry gray mounds of water 15 or 20 feet high. Above, the sky spits bone-numbing rain and sleet. He's sitting in a webbed harness that wraps around his legs and crotch. Long stir-

rups hang on either side, and by stepping in these he can inch his way up the mast. Between his legs dangles a canvas bucket full of tools.

This is his fifth time up the mast in a sleepless two days. Yesterday at about 9 P.M., as he was sitting at the nav station eating curried rice and chicken, the boat fell off a wave and he felt the sick jolt in his bones. "A flex in the whole boat. You knew something big was wrong," he says. "It's not a good sound." The mast, which should be a straight column, was bowing like a bone about to break; a metal fitting holding a critical supporting stay halfway up had snapped. Steve dropped all sails but a tiny handkerchief and steered the boat with the wind and waves to take the pressure off until daybreak. Then he spent the night deciding how to fix it. Forty-eight hours and several fax conferences to Warren Luhrs and David Barnaby later, he's working on what he hopes will be his final repair.

About 40 minutes in the freezing rain is all he can take at one time. He works on the bottom portion of the repair, then scootches himself up another dozen feet to work on the top. Then back down, then back up. His hands are like hamburger, raw, torn, bleeding, blistered and chafed in the saltwater and cold. Every now and then he stops to breathe life into his fingers. Finally, the repairs are done. He descends; his numb hand can barely work the clutch that prevents him from crashing to the deck. When he touches down, he rushes below and fires up the generator, warming himself by its noisy rumble.

December 13, daybreak: about halfway between Cape Town and Sydney. Hunter's Child is two days into a storm that has slam-dunked the fleet, breaking equipment, ripping sails and sending boats careening down titanic 50-foot waves and cross seas. For now, it has changed the race's character; winning is less the goal than surviving. Steve has had no sleep for more than 48 hours. Though the autopilots can steer the boat, it's safer for him to hand-steer in the wild waves. When he's not steering, he is hard at work keeping his boat together. He's stuffed granola bars, candy bars, apples, cartons of juice and sacks of dried apricots, raisins and peanuts into small storage holes in the boat's doghouse, a cozy nook between the main cabin and cockpit. As he steers, he can reach in and grab something to munch until there's time to go below and cook a hot meal.

Down below, the cabin drips like a sewer. The temperature averages 35 to 40 degrees. Steve's wearing layers of clothing, and he changes his socks constantly because water pours into his boots when he's on deck. To dry them, he runs a string between the generator and a sail bag, where his socks dangle and swing like soggy Christmas ornaments. The bunks are wet, but it's no great loss; he grabs sleep like a snack, curled up in the doghouse, fully clothed. "I woke up one time standing with some tools in my hand," Steve says. "I woke up drooling on myself. I said, Jesus, I wonder how long I've been standing here? You'd go until you passed out and then wake yourself up. It was nonstop."

Isabelle Autissier

Cold and discouraged, Isabelle Autissier talks by radio to helicopter that is on its way to rescue her. On New Year's Day, following a four-day wait, she was winched off the boat, which had been dismasted and partially flooded.

This morning, as Steve is descending into the cabin, a huge wave smashes *Hunter's Child* and drives the mast into the water. The nav station's desk pops open and spills tools, plastic bags of parts, a computer printer and assorted junk all over the cabin. Equipment manuals take wing from the shelves, cassette tapes clatter to the floor, and dozens of batteries scatter and fly. "It got real dark inside and I could feel the boat get pushed down underwater," he says later. "You could feel the pressure on your ears. I'm standing on the side of the coach [cabin house roof] and stuff's flying all over, manuals, everything's dumped out. I just said to myself, I hope this son of a bitch holds together."

Suddenly, a window just forward of the nav station pops under the pressure, and water shoots in as if from a fire hose. The corners of the window frame start tearing as the ocean tries to rip a bigger hole in the boat. "I was thinking—before the window even came out—I was thinking, she's over farther than ever, I hope she makes it back up," he says. "I did flash on the fact that the life raft was right there."

The boat groans upright, and Steve is ankle-deep in water. It pours onto the nav station, flooding the computers and electronics. Sheets of computer paper and a few of the foot warmers he stuffs into his boots are stuck to the ceiling. He leaps for the emergency pump and starts bailing with a bucket as well. Loaded with water, the boat wallows unsteadily. "I'm thinking to myself, I hope I don't get hit by another one of these now because the boat's so unstable with all the water," he says. "That's when you think about going down."

After most of the water's gone, he cuts an aluminum tube and props it between a bulkhead and the window, jamming the popped window back in place. Then he caulks it inside and out with quick-drying sealant. The next morning, he strengthens the window's corners with carbon fiber and epoxy. Then he cuts up a sheet of plywood on which he repairs sails and places one piece over the window on the outside and one inside, running bolts straight through the cabin roof into both planks. The window holds. The mast stays up. *Hunter's Child* sails on. A day later, the storm abates.

Sunday, 2:12 A.M., Christmas morning. Hunter's Child crosses the finish line under a race committee boat's floodlights, and race officials dressed in Santa Claus hats and suits jump onto the boat and start dropping sails. Patty, who's been in Sydney for two weeks, waits on the committee boat. Battered, bruised, exhausted, Steve has finished third, sailing the 6,700-mile second leg in 28 days 2 hours 12 minutes.

Wednesday evening, December 28, about 920 miles off Adelaide, Australia. Isabelle Autissier, who rigged a temporary mast at Kerguelen Island and was heading steadily for Sydney, has activated her emergency beacons. Toppled by an enormous wave, her boat rolled through 360 degrees, stripping the deck. The ocean punched a hole across the cabin top, destroyed the steering system and flooded the back end of the boat. Isabelle shuts the watertight door to corral the water in one compartment, then holes up in the front of the boat until a Royal Australian Air Force plane finds her. On New Year's Day, an Australian Navy ship arrives and dispatches a helicopter, which lifts her to safety. Isabelle's boat, like her dream, is left to drift in hopes of salvage.

January 3. Hunter's Child sits high and dry, undergoing a complete overhaul. The broken window will be permanently closed over with fiberglass. The mast is removed, and David will dismantle it and x-ray every piece of metal, looking for any signs of cracks or fatigue. Metal fittings like that which nearly toppled the mast will be replaced with the next larger size. At least two new sails will be built, and all others will be repaired. A heater will be installed; no more hugging the generator.

Steve remains in second place overall, a day and a half behind defending champion Christophe Auguin of France, who won Leg 2. But the race is only half over. Leg 3, back into the Southern Ocean and around Cape Horn to Punta del Este, Uruguay, begins January 29. Then on to the finish in Charleston, sometime in late April. Anything can happen.

And so Patty organizes the food, answers the mail. David quietly examines every inch of the boat and mast. He and Steve try the new sails. They replace the soaked computers. They study the weather. And Steve weeds out his charts, goes through the parts bins for any extras, sets his clock for every two hours and snaps his fingers to some new tapes, awaiting his chance in the ocean, again.

BOC racers looked sharp leaving Cape Town; the boats are now in Uruguay preparing for the final leg.

THURSDAY'S CHILD
11
33
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By Maxine Rock

Human 'moms' teach chimps it's all in the family

A nursery school at the Yerkes Primate Center gives lessons to the offspring of lab chimps on how to live like their wild-born relatives

On a warm spring day in Atlanta, Kathy Gardner and Kelly McDonald are taking the little ones out to play. A couple of the youngest are riding on the women's backs, and five toddlers are romping along beside. In a few minutes Kim Bard appears and greets the adults and children with a wide, open-mouthed expression—a rather forced-looking grin by most standards, but the youngsters respond enthusiastically, and 10-month-old Rosemary beams a delighted grin back in response.

The youngsters are chimpanzees, and to them Bard's smiley expression means that fun is on the way. For the rest of the afternoon, for the sake of science and the endangered primate species, Bard will become a mother chimpanzee.

Bard and her research assistants, Gardner and McDonald, work at the Yerkes Regional Primate Research Center at Emory University in Atlanta, raising 22 baby chimps ranging in age from a few days to four years.

All the babies are offspring of laboratory animals. Legal and social pressures have led Yerkes, like other science centers, to cut back on its use of chimps, except for reproductive, psychological and urgent medical research. And it has initiated programs such as Bard's to improve the animals' environment. In addition to teaching captive-born chimps how to act like their wild relatives, Bard's work is prying open some of the secrets of human infant development.

There are between 200,000 and 300,000 chimpanzees remaining in the wild in Africa, but their future is in peril. The chimps are still hunted by some indigenous peoples for meat, and their body parts are prized as souvenirs. Mother chimps are killed so their infants can be snatched and sold as pets. Chimp habitat is also quickly being destroyed as their homeland is rapidly developed. There is a growing consensus that chimps in the wild may disappear entirely within 20 years.

There are approximately 2,000 chimps now in captivity in the United States, and many of the captive chimps are in the care of researchers like Bard, a developmental psychologist. Her project at Yerkes is changing the way captive chimps are treated; she insists that humans in the business of raising apes in research labs, zoos or animal parks adopt the behavior of the chimps, not force the chimps to fit in with human behavior.

"In the past, when newborn apes were taken away from their captive mothers because they lacked the nurturing skills to care for them, the babies were treated by researchers as little people," Bard says. "We meant well, but the results were terrible!"

In the wild, female chimps learn from their mothers and other female relatives. When they are removed from their maternal group and isolated from one another, none of the nurturing skills are passed along. The offspring of the captive chimps have no role models, so when they grow up they are afraid of their own kind and don't know how to behave. If young chimps are placed with wild-born chimps in a zoo, they just scream and hang on to the humans who raised them. They never learned chimp techniques for mating or for getting along socially. If they do produce offspring, the animals rarely have the skills to care for their own babies.

The result? "More orphans in more nurseries," says Bard, "and more chimpanzees with hang-ups that come from being raised by humans."

Primatologists have long suspected that the great apes (common and pygmy chimpanzees, gorillas and orangutans) are short on instinct and must learn how to be good parents. They imitate their mother's behavior and watch other primate parents groom, cuddle, feed, transport and protect their young. But if they are raised by humans, the animals tend to mimic human behavior—which is all wrong for chimp society.

Bard wants to create chimps who feel at home with their own kind. To accomplish this, she has spent the past eight years learning how chimpanzees communicate with one another using body language. She logged-in hours at the Yerkes field station in rural Georgia, where she watched chimp mothers in action, studied slow-motion videos of chimp mothers and babies, and interacted with chimps until she was "limp and exhaust-

Kim Bard encircles 10-week-old Julie with arms and body, the same way a chimp mother would hold her infant.

Photographs by Enrico Ferorelli

At chimp school: Bard grooms Drew under Moses' watchful eye (above); Lucas greets Bard with wrist present (top right); Kathy Gardner and Moses relax.

ed." Now, she and her assistants are teaching ape social skills to orphaned chimp babies.

"I believe that chimpanzees think and feel emotions. So we should respond not only to their physical demands but to their emotional needs as well," says Bard. "We have to be able to recognize their facial expressions and know when to use them; how to groom the babies by picking slowly through their hair, the same technique mother chimpanzees use to relax their offspring; understand that 'hoo, hoo, hoo' is a baby's distress call, and that a quick hug will calm the infant down.

"In order for a human to interact with chimpanzee babies, her actions have to be as much like their mothers' as possible," Bard continues. She takes a deep breath and leans forward. "I realize that I'm adding emotions to the discipline of scientific observation. I expect there might be some resistance, even hostility, to my conclusions from some members of the scientific community." She shrugs and nods in the direction of the nursery. "The 'scientific' truth about chimpanzees is that they do have emotions, and they show them."

Bard is a natural for the job. She describes herself as a quiet, shy child who was always more content to watch others than to participate, and always felt drawn to the honesty and simplicity of animals. As a teenager Bard read everything she could about the pioneering researcher Jane Goodall and her adventures with wild chimpanzees. "I was fascinated by these creatures that did not speak but could express their feelings through body language," says Bard.

As an adult, Bard chose as her profession the study of the complex world of early childhood development. She realized that human infants communicate the same way as chimps—using vocalizations and body language—and she couldn't help but notice the similarities between ape infants and their human counterparts. Her vocation led her straight to Yerkes—and to the chimps.

Bard is now devoted to the effort of raising well-adjusted animals, and so far it's working. In the past eight years, six chimps have graduated from her primate program. Some of them are now part of chimpanzee social groups, and a few live with a minimum of human contact in large animal compounds at the Yerkes field station. These chimps are interacting successfully with other Yerkes chimps that exhibit normal chimp behavior. Bard's graduates are now juveniles and adolescents who, like their wild kin, are learning mating behaviors from peers and elders. They are still too young to have

Maxine Rock is a freelance writer from Atlanta who frequently covers ape research at Yerkes. Her book Kishina, the Miracle Gorilla *is due out this summer.*

babies, but as Bard says, "We have given them the experiences that we expect are necessary for them to become competent adults." Now her task is to educate a new crop of babies so they, too, will grow up as fully-functioning members of ape society.

Bard and her assistants spend their days responding to every grunt, whimper, pout or giggle of each of their charges. They even notice when a baby chimp's hair is slightly puffed up, a response known as piloerection. It is a subtle sign that a baby is getting nervous.

This afternoon, after Bard has greeted Gardner, McDonald and the toddlers with a chimp "playface," Rosemary waddles over and raises her hand, wrist extended, in greeting.

"A wrist present! Good girl, Rosemary," Bard coos. Rosemary has just acknowledged Bard as an adult animal, said hello and indicated that she knows big members of the group have a higher rank. This is one of the hundreds of little gestures that make up the language of chimps. Bard and her assistants taught Rosemary the meaning of a "wrist present." On their own, all chimp infants engage in this and other behaviors, but without an adult to attribute meaning to these actions, they don't enter into the babies' repertoires of chimpanzee manners. A youngster who doesn't do this essential bit of chimp etiquette risks a rebuff—and perhaps a nasty bite or blow—from a larger animal. But Rosemary has just shown Bard that she will probably be able to get along in a group setting with older chimps.

Another crucial sign of submission to an older, stronger animal is the "rump present" done by young chimps of both sexes and by females who want to ward off the aggression of an angry or excited mature male. The submissive animal crouches down, presenting its backside to the aggressor. The gesture means "You can hit me if you want, you're the boss"—an acknowledgment that negates any need for aggression. When a chimp baby worries that it may have angered Bard, it does a rump present. The appropriate response to this is a pat on the rump, which means "Yes, I *am* the boss, and I won't hurt you!" Rosemary has mastered both.

Another chimp gesture, the "open-mouth greet," is also taught by Bard to help the babies verify their place in the pecking order. Young chimps don't have many responsibilities, but they must show respect to their elders. After a young chimp offers a wrist present, the older animal grasps the youngster's wrist and pants on it softly, with its mouth open. If the wrist present is the youngster's way of saying "Hello, sir," the open-mouth greet is the response "Hello, Johnny." Both animals show they understand the other's place in chimp society.

Mother chimpanzees constantly reinforce these "manners." Bard does the same. If chimp manners aren't used every day, the young animals quickly forget. "When that happens," sighs McDonald, "they stop being chimpanzees and start acting like the humans they're with."

When Rosemary was born, her mother had no idea that she was supposed to pick up her baby, bring it to her breast and cuddle it. After giving birth, the mother just stared at her whimpering infant with a confused expression and walked away. Another female, a competent mother, came over and picked up the newborn. When it began to cry, the adult inexplicably bit off two of the infant's fingers. When Rosemary was removed to Bard's nursery, her mother didn't seem to notice.

During the afternoon snack break, Bard gives Rosemary a quick hug and pats the toddler's mutilated hand. Gardner doles out tin cups of apple juice to the chimps, and Rosemary decides she wants some. Bard lets her scamper away. "She needs plenty of time to be with other chimpanzees of all ages," Bard explains, "so she can practice getting along with the older ones and learn from them. Later, she'll have younger chimpanzees looking to her for help. If we teach her the right signals, she'll be able to function as a member of a group."

Bard has some food for the babies. She holds out a cup of cereal and a carrot and makes a "food bark."

Julie needs Gardner to hold her and support her bottle, but 10-month-old Rosemary can fend for herself.

Like an earnest little man, 18-month-old Merlin stands upright, a posture most commonly seen in youngsters.

Patrick, a burly 18-month-old, swaggers over and sniffs the cereal. Bard praises his curiosity by patting his rump. Patrick rejects the cereal, but when Rosemary eyes the cup he slaps her. Rosemary screams and runs to Gardner for reassurance. Patrick toddles after her and asks forgiveness by kissing Rosemary softly on the cheek. Patrick won't be punished.

Chimp mothers never scold the youngest chimps—they just ignore them. Like Patrick, they have a tuft of white hair on their rump that indicates their immaturity and protects them from harsh discipline. Young chimps crave approval, so a cold shoulder is punishment enough. When the hair tuft disappears at about 4 years of age, chimp mothers will punish unruly offspring with a swat or a nip. Until then, they offer only instruction and encouragement; Bard and her assistants do the same.

When Patrick ventures outside the playground gates, Bard moves along the ground with him for a while and then stops, her message that it's OK to explore. He looks at her, a worried expression on his face, and whimpers "hoo, hoo, hoo." It means he's nervous about being separated. He rushes back to the comfort of Bard's arms, gets a quick hug, then goes off to poke around some more. He is learning how to be independent, just as he would in the wild. Bard is being a good mother by encouraging him and staying close.

"It's exhausting work," Bard admits. "Anyone who works closely with chimpanzees needs a lot of patience and sensitivity." When asked if it is a coincidence that the three researchers are female, Bard looks thoughtful, then laughs. "Well, sure a man could be a parent. Male chimpanzees do play with the babies now and then, and they take an active role in educating young males. To parent a baby chimpanzee, all you need is a big heart and a willing body. We watch every move of a baby and try to anticipate what its mother would do in response. It takes a few years before we feel confident that we can really think like chimpanzees."

Bard agrees with many other researchers who have concluded that chimps actually think. Chimps are able to associate symbols with real objects and can communicate with humans on a keyboard, using words and simple sentences. They solve problems, use tools and create art. Chimpanzee mothers have been observed teaching their daughters how to crack nuts, and older chimp males instruct younger ones in cooperative hunting. Chimps can also anticipate events. They make plans to join with others in attacking an enemy, and they seem to know what will happen if they win or lose. Chimps use their pals and their relatives to move up the social ladder. Their ability to hatch plots and engage in complicated social intrigue has been documented. Chimps also form deep emotional attachments and show every sign of grief when separated. They feel jealousy and show dismay when they are rebuffed.

Infant chimps also reveal a broad spectrum of emotions, but because they are too young to engage in complicated social manipulation they get what they want by using sounds, facial gestures and body movements. Their body language is so similar to that of human infants, it is now believed chimpanzee development is nearly identical to that of humans in the first year of life. "People often ask me how chimpanzee babies compare to human babies," says Bard. "I can't think of any ways they are different."

Chimps, gorillas and humans probably budded from a common ancestor, somewhere between 5 million and 15 million years ago. That ancestry still throbs loudly inside us; 99 percent of chimp genes are identical to ours. So Bard isn't surprised at the similarities between chimp and human babies.

Bard's research with baby chimpanzees has supported new theories about raising human children. Those theories, now being tested at MIT and the University of Illinois, claim that babies develop their own species-specific skills very early in life, possibly before the age of 1.

These skills—including the development of self-esteem, intellectual curiosity and the ability to get along with others—are learned by example. Just as the infant chimps mimic what Bard and her assistants do, infant humans will mimic the actions and expressions of their caretakers. This may be why babies crave so much attention during their first year of life, and without role models they cannot grow into good parents themselves. Nobody showed them how.

"It does make sense," Bard says firmly. "We find that an infant—chimpanzee *or* human—has to be regularly exposed to the right signals, movements and facial expressions in order to thrive. If a baby receives negative or confusing signals, the infant won't learn the unspoken language of the group. It puts the youngster at risk of becoming an outcast, and it surely interferes with parenting later on. The right messages can't be sent if the parents never learned them."

A chill has crept into the afternoon breeze, and Bard notices that the chimps are all huddled next to Gardner and McDonald. Julie is fast asleep. Rosemary is curled in Gardner's lap, with her head resting against another chimp's shoulder. Even Patrick has stopped playing and has wrapped his arms around McDonald's neck. He is gazing sleepily up at her face. At 5 P.M. they will all be taken back to the nursery, given their evening snack and tucked in for the night.

Bard is exhausted, but she still has paperwork to complete, reports to write and phone calls to make. She keeps detailed notes on the progress of the baby chimps, to document and track their progress toward independence and emotional maturity.

Eventually, she hopes, a project like this will no longer be necessary because all captive chimps will be well-balanced enough to raise their own offspring. "What I want is no more orphans," Bard says softly. "No more laboratory nurseries. I'd love it if chimpanzees could just be chimpanzees, and I could put myself out of business."

Two-year-old Brooks (left) and Merlin engage in species-typical hugs, playbites and smiles just like their wild counterparts. By the time they graduate at 4, they will know meanings of countless chimp gestures.

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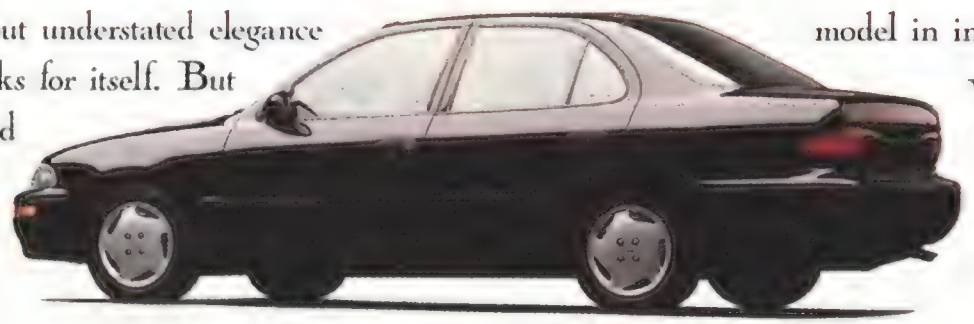

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By Diana Kappel-Smith

Fickle desert blooms: opulent one year, no-shows the next

Arid lands mean life on the edge. Adaptations serve flowers well, but deserts are always mosaics of abundance and seeming sterility

Paul Johnson is shouting over the phone: "Ajo lilies! They're coming up in places where nobody's ever seen one before! We've got ajo lilies on a horse farm. They aren't supposed to be on a horse farm!"

Paul is in Anza-Borrego Desert State Park, in Southern California, where we will be ten days from now. Paul was a ranger there for decades, he's lived in the desert for almost 30 years, he's an experienced botanist; it occurs to me that it shouldn't be easy for lilies to take him by surprise.

But they have.

We are looking for desert flowers too, and we'd like to know what to expect when we get to Anza. The winter of 1994 has been cool and rainy throughout much of the Southwest. According to conventional wisdom, the deserts should be coming into bloom just about now, the middle of March.

Most people know that when it rains, the desert blooms. But behind the simplicity of the idea "rain equals flowers" are myriad puzzles that no one has solved. Plants are stubborn eccentrics. What is it, really, that drives them into bloom? How do they relate to other plants, to animals, to the weather?

What we do know is this: annual flowers are more important in deserts than they are in any other ecosystem. The drier the desert, the more unpredictable its rainfall, and the more important annuals will be—up to a point, of course, but that point is extreme. They vanish from the scene in the central Sahara, for instance, where one rain may come in 25 years. But as long as storms are more frequent than that, annuals are in a better position than any other kind of plant to take advantage of deserts.

Contrary to an Easterner's impression of deserts as being uniform, and hot and dry, they are biologically complex, and the rains are often violent and always unpredictable. To survive, plants must be able to act quickly, and annuals are the racehorses of the plant world. (Out here, "annuals" is a misnomer, actually, implying that blooming can be expected every year, which it cannot. Desert annuals are commonly known as "ephemerals.") Many of them can complete an entire life cycle in a matter of months or even weeks (a Saharan grass can do it in eight days).

For those of us whose cultural heritage lies in less arid zones, the life cycles of desert flowers are hard to believe. "Our" spring wildflowers are modest little bodies that bring a brief sparkle to the forest floor before the trees leaf out. Nothing has prepared us for the desert, where one year is never anything like the year before, and where an oasis or a mountain range or a dry wash meandering across an arid plain, or even a hollow in the midst of a dune field, is an island, a refuge in a world vastly different from itself.

It's just this wild, improbable nature of the desert spring that we will try to capture, Tom Wiewandt with his cameras and me with my notebook. We will travel almost 2,300 miles from Arizona south into Mexico, then up through Southern California and on through the Mojave to the Nevada line. In spite of our years of desert

This is how the same spot in the Sonoran Desert in Mexico looked in the spring of 1992 (opposite) and a year later (above). Conditions had varied .

Photographs by Thomas A. Wiewandt

experience, we don't know what we will find, and we know we don't know.

For a day now we've traveled south, most of the time without a flower in sight. A few desert basins have been freckled with white dots of pincushion flowers, hot oranges of Mexican poppies, patches of owl's clover purple, spires of lupine blue. It's the 17th of March 1994; these flowers are right on schedule. When we get out to look there are dozens of species in bloom, many of them intertwined with shrubs, some of them tiny, like dollhouse flowers—"bellyflowers" is what they're called. There are a lot of annual grasses. In one place a solid yellow rug of bladderpod mustard covers acres. But most of what we see is emptiness, with blue mountains in the distance and in the foreground, gravel speckled with the odd creosote bush here and there.

Now, here on a dirt track in the wild backcountry of northern Mexico, we are suddenly surrounded by masses of white blooms: clumps of white dandelions, frail blossoms of evening primrose, pale spires of ajo lilies—like small Easter lilies and spicily fragrant. There are carpets of shocking-magenta desert sand verbena. Bristly coils of popcorn flower, backlit, fill the plain with billows of silver. Distant hills are covered with a solid mass of white flowers. The hills look silver, tarnished and mobile, like the waves of a distant sea.

This is the fringe of the Gran Desierto, the Great Desert, 1,700 square miles of shifting pinkish sands that lie between the Gulf of Mexico and the Arizona border. The Gran Desierto is the only true sand sea in North America. A year may go by here with no rain at all. A few outcrops of glossy black volcanic rock, now prettily grouted with rock daisies, hold more moisture than the surrounding plain; they support several plants of ocotil-

Phacelia, at the top left, has flowers arranged along a tight coil. At the top right is desert velvet, also known as turtleback. Along bottom row, from the left, are ghostflowers with translucent petals, a lupine that changes color when a pollinator has visited it and the flaming flower of a blooming barrel cactus.

lo and creosote and brittlebush and the odd saguaro, the only prominent perennials here. Between outcrops, under the flowers, there's nothing but sand.

Most of the time all these flowers are present, but invisible. The ajo, or desert, lily bulb hides two feet down and may be there for five years or more without giving any sign of its existence. How long can it stay down there without coming up for light? No one is sure. If a little moisture penetrates, the bulb may send up a ruffled silver leaf or two. If a lot of moisture penetrates, it will send up a flower spike one to six feet high. As for the others, the ephemerals, they spend most of their lives as seeds. Seeds need a certain amount of moisture to germinate, and every species has its own parameters. Some need more moisture than others; their seed coats are impregnated with germination inhibitors. These inhibitors are water soluble and can be washed out only by a deep soaking. If the soaking is only so-so, the inhibitor somehow reestablishes itself. In other words, these seeds can measure rainfall.

The fivespot at top, a member of the mallow family, is common on desert flats. Above, desert, or ajo, lily can sprout even when the bulb is two feet underground.

Other seeds have totally waterproof coats and no amount of water can get in until the seed coat is physically damaged. Desert trees like ironwood, paloverde and mesquite have seeds of this kind; numbers of shrubs and annuals do, too. By passing through the gut of an animal these seeds can be mangled enough to sprout, but good roughing-up conditions can also be found in gully-washing storms that send chunks of landscape roiling downhill in a gravel-and-debris soup. The drying debris will hold some seeds whose coats have been well bashed. Some will have landed in the wettest place around, often on the bank of a wash.

Where moisture is marginal, the tiniest of washes can hold enough additional moisture enough of the time to be home to plants that will not grow on ground to either side. Even broad, open basins are not uniform as far as plants are concerned. Any shrub, however scant its branches, creates a microhabitat under itself. There's a little more shade and a little more organic litter, and the shrub creates a "wind shadow" that collects seeds and organic debris blown over naked gravel.

But no matter where seeds are when rain comes, temperature and day length are critical to their germination. Some annuals will sprout only in response to summer rains, others only in the cool, short-day rains of winter. Winter ephemerals can sprout anytime from October through March, though autumn rains lead to the flashiest flower shows, and this is odd, because rain in October or November is not on any North American desert's "regular" schedule at all. The eastern reaches get most of their rain in summer, from thunderstorms that pile up moisture from the gulfs of Mexico or California; the westernmost deserts get the bulk of their rain in winter months, from Pacific storms. Autumn rains are totally irregular, really out of sync, but that's what leads to the rare mega-year, the blockbuster flower show. That's what must have happened here.

The best shows are found in the "worst" places

In general, the more barren the desert is, the more rare and astounding the flower show will be. Last year a patch of dunes 30 miles east was a garden of waist-high primroses, verbenas in solid magenta mat—it was a garden of delights. This year there's nothing there but gray, burned-looking sticks. Now the show is here, at the edge of the Gran Desierto sands. In the cool of dusk the air is heavy with flower scents.

When we get out to camp, there are hundreds of white stars blooming around our ankles. In the morning, the white stars are gone.

I crawl on my hands and knees in the morning light,

Desert plants have evolved to extract the maximal benefit from rare, short downpours such as this one. Most of the water will be lost as it evaporates or percolates through the sandy soil, beyond the roots.

unwilling to believe that anything so showy could have disappeared just like that. When I find them at last, they're so well camouflaged that I have my hands on half a dozen before I see one. Their flowers are screwed into a sharp point, their stems and leaves are the width of thread and are mottled red-green; these complementary colors cancel each other out so that even when you know what you're looking for, all you see is misty nothing-much. At dusk the flowers are white and face the sky, like dime-size stars, but—like stars—they can be seen only in the dark. They are called evening snow.

When evening snow opens at dusk, the dandelions close themselves into fat paintbrush shapes, and only in the broad light of midmorning do the dandelions see fit to open again. The birdcage evening primroses open in afternoon. By the next midday they have shriveled, their crepelike petals shrinking and going pink. Other, smaller evening primroses open at dusk.

North and west of the Gran Desierto it is a good year for perennials. In the third week of March we reach Anza-Borrego at last, and here the chuparosa shrubs are deep red domes in the hollows of the landscape. Their flowers are red tubes an inch or so long. I know that if I sit beside a chuparosa, I am sure to see hummingbirds.

Sometimes the hummers don't even give me time to sit down: *mmmm MMMmmmmm* and there it is, the dark hummer-shape dipping to probe a flower, *mmmmmm MMMm*, and dipping, dipping again. Its head looks plain, dark. I watch until I catch a diagnostic flash of laser purple. It's a male Costa's. Then *MMMMmmmm zzzing zzzing zzzting*! Another male arrives, and there's a dogfight faster than the eye can follow. It's breeding time, they're feisty, they're staking claims to nectar.

If you are a plant that depends on hummers for pollination, then you have to be dependable—that's the price you pay. Fickle ephemeral flowers have no place in a hummingbird scheme of things. Unlike bees, hummers have no reserves to fall back on if the flower crop fails in any given year. They're so high-powered that without a steady nectar supply they would die of starvation within days. The same thing goes for plants that depend on nectar-feeding bats, cardon cacti for example,

Diana Kappel-Smith is no stranger to the Southwest. For her 1992 book, Desert Time, *she logged 25,000 miles by car, and more on foot, horseback and rafts.*

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A SWEDISH OBSESSION

and some century plants. If they fail to bloom, then the bats will suffer, and if bats suffer, then plants that need their services will suffer, too. This interdependence ensures that the flowers will be there. All these perennials can keep an energy and water supply stored in roots, stems or leaves. This ability sees them through dry years, so they can afford to make floral investments even at a loss.

Now the ocotillos are coming into bloom. They are obvious in their intentions, too. They bear their flowers at the ends of branches as lissome as fishing poles. The flowers are tubular and knockout orange-red. If you see 50 in one day you'll still say, "Hey, look at that ocotillo!" They're that red. They bloom just when local hummers are breeding and raising young, and when other species are passing on their northward migrations.

Lupines are also cooperative. There are many species of lupines all across the desert Southwest, and when their flowers are fresh their banner petals have a central flag that is white or yellow. Once the nectar has been taken and the flower fertilized, the spot turns red. The fertilized flower stays on for days to add to the height of the attractive spire, but a bee or fly or butterfly that comes close can easily tell where nectar is to be had: under the yellow or white banner every time. Red-flagged lupine flowers are not worth a visit.

Pollinators are not the only visitors to flowers or the only influence. Herbivores have an effect as well. One morning in Anza-Borrego I'm walking up a wash in the clear sun, the hills around me haloed in the gold of brittlebush, when I stop in my tracks: one bush is filled with blister beetles. Then there's another infested bush, and another. The beetles are red-and-black, about an inch long, and there are up to 80 of them in a single plant. They've eaten all the ray flowers, the outer "petals"; now they're plucking the central disk flowers, grasping and tugging till the florets come out with a soft pop like carrots pulled from the earth. The brittlebush is being systematically stripped.

From Tucson to Sonora to the central Mojave, it's the same story everywhere: this is a brittlebush year. It's not just a year for their flowers, though it is that, too. From a distance whole mountainsides seem to have been spray-painted gold. The important thing is that there are more plants around than there were two years ago. There is a new young crop of brittlebushes in the world, a new recruitment, a whole new class.

This has been the second winter of good rains after a drought. Numbers of perennials died in that drought—cactus, brittlebush, even creosote. Their silvery carcasses persist for years, showing what happened, and now new perennials are filling in the decimated ranks, I see. A lot of the recruitment seems to be the silvery hemispheres of brittlebush, grapefruit-to-basketball-size, one- and two-year-olds. New sprouts are all over the place. Some people think this brittlebush boom will change the face of the desert for decades to come. No one really knows.

We drive north through the Mojave, through one grand but colorless basin after the next. It seems to be a disappointing year up here for annuals. Cottonwood Springs in Joshua Tree National Monument is a famous flower hot spot. In 1993 people took their lawn chairs out there and had lupines up to their armrests. This year, in spite of excellent fall and winter rains, the lupines are low and scattered, already drying back. But the perennials are another story. Cacti are swollen with moisture and frilled with buds. At midmorning these open into multipetaled flowers that shrivel by dusk, to be replaced by armfuls of fresh blooms the following day. Cactus flowers are short-lived but glorious. At noon the barrels have golden crowns, the beavertails wear blasts of hot pink, even the chollas wear frilly cups of lime-green (and all those fuzzy yellow stamens). They seem more sensual than chollas should ever be.

Not all perennials are predictable, by any means, though they have that reputation. Some of them may go for years between blooms. Perhaps this year these

Phacelia carpets a wash in Death Valley. Degree of bloom is a good indicator of where most moisture lies.

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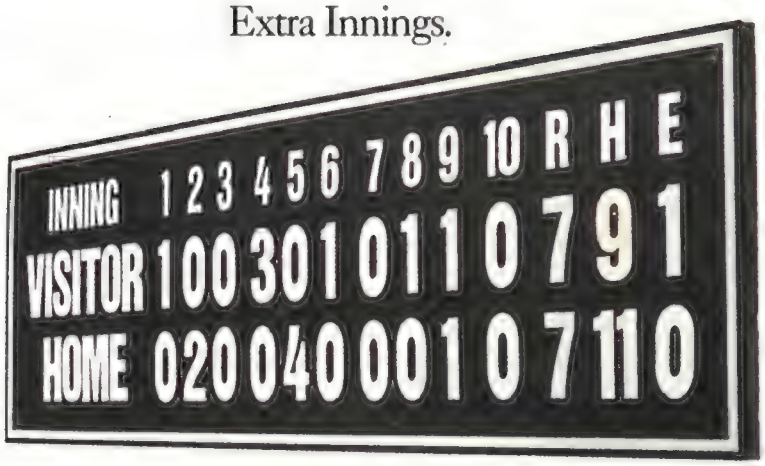

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Accord EX V-6 Sedan model shown and described. © 1994 American Honda Motor Co., Inc.

Blister beetles feast on the flowers of a brittlebush in a California state park.

The population of brittlebush, such as this one in flaming bloom, is burgeoning.

fussier perennials are responding to the rarest desert event of all: two rainy winters in a row. In Joshua Tree, hillsides of nolinas are sending up flower buds the size of my legs. Nolinas are relatives of yucca. Their flower spike when fully unfolded in bloom is a fragrant, insect-infested affair the size of a family Christmas tree. These are not minor events, and they are not common. One ranger has a nolina in his yard that hasn't bloomed for 17 years. It is sending up three flower stalks now.

Desert bloom is patchy, improbable, shifting. Once I've come to the conclusion that annuals are poorish in the Mojave this year, I'm proved wrong. On the way to Death Valley National Monument we come through Sheep Hole Pass, just northeast of Twentynine Palms, and there one piece of ground is carpeted with annuals in ecstatic bloom. There is a swatch of color a quarter-mile on a side, and that's all. You can stand in one place and count 16 species blooming at once, all colors from royal purple to sky blue, gold to yellow to white. Some smell good and some smell bad. In every direction are mountains, salt basins, a resounding emptiness.

Desert flowers have become a tourist attraction of no mean importance. Nowadays the parks out here are swamped with flower-seekers every spring, whether or not the desert has obliged (most of the time it has not), and sometimes the tourists are annoyed. Every time a flower mega-event does occur, television crews show up in droves, along with every photographer this side of the Alleghenies and reporters from every local (and not-so-local) rag. It doesn't take much skill with lenses to make a room-size patch of purple appear to go for a hundred miles. Writers let go with all the adjectives they've been holding back for years. Somehow the real message doesn't get across: this is rare, fragile, ephemeral; you have to wait long and hunt hard for the magic, and that's a lot of what the magic is.

Death Valley is the driest place on the North American continent. The range of heat and cold is more extreme here, the gravel slopes more naked, the patchiness of desert events patchier than elsewhere, and bloom—when it comes—more ephemeral. A good flowering year may come only once in a decade or two. Records show that 1973 was a banner year, 1988 was pretty good, and this seems to be a banner year again.

On the 26th of March we come through Salsberry Pass and into the valley itself, down a slope yellow-orange with desert sunflowers, the snow-covered peaks of the Panamints rising beyond. Here, as the days pass, the flowers strewn through this valley come to seem intelligent, willful as well as beautiful. They have made a journey over years to just this place and time, their seeds seem durable almost beyond belief, and the plants themselves have plenty of tricks of their own.

Once they sprout, the gravelghost and the desert fivespot and the golden evening primroses and the brown eyes grow leaves that are red or green-gray, many of them heavily speckled; these are all but invisible among the stones as they spread into sturdy rosettes. Hugging the ground, these leaves stay as warm as possible and grow as fast as possible in the cool days of winter and early spring. They are so well camouflaged that it is possible to walk right on them without suspecting that any plant is here. Winter is when the bighorn sheep come out of the mountains to eat any green thing, but

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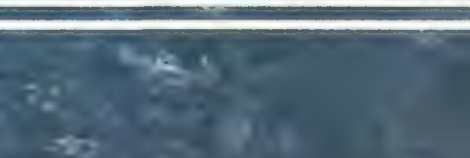

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these plants are not green. The sheep do not pose a threat.

These plants grow fast. Winter annuals are known for swift growth, and brown eyes, an evening primrose, has been proven to have one of the highest photosynthetic rates ever measured in any higher plant. The reddish rosettes are faster, more efficient converters of sunlight than corn, soybeans or wheat.

When heat and light let them know it's time to bloom, ephemerals send flower stalks rocketing up in a matter of days. The peak of this bloom may last for days or weeks, depending on the weather. Altitude figures in, too; the higher one goes, the later bloom comes, stretching the flowering season over two or even three months. Once bloom begins, each slope changes color with the hours of the day as the weeks of March and April pass. There is a dither of white as gravelghosts blossom on sudden two-foot stalks, a brushstroke of purple as caltha-leaved phacelia traces the meanders of a wash. In the afternoon the marble-size pink globes of the fivespots open just enough to show the ruby spots inside. At dusk, when the golden evening primroses open like butter-yellow coins, the fivespots have closed again.

In all three recorded banner years, including this one, the measurable rainfall from October through March here has added up to about three and one-half inches—this is the one thing those years have in common. Other details are (true to desert form) different. In 1973 the peak of the bloom was in January, and this year the peak seems to be now, the end of March.

Three and one-half inches is a lot of rain. A number of studies have concluded that about an inch seems to be the minimum for spring ephemerals to germinate in quantity, though some will germinate with half that, and more rainfall will bring up more species and in greater numbers. The amount that falls from the sky is only part of the story. Moisture can vanish again in an instant or stick around awhile and be effective, depending on subsequent events. If the weather stays cool and quiet after a storm, rain has time to penetrate absorbent seeds and roots. If a desert wind comes up, however, then the rain will be all but useless: available moisture will be sucked from the soil, and leaves sticking up will be dried to a crisp by morning (this is another reason for those flat-to-the-gravel rosettes). Flower stalks will be battered to the ground, petals will be torn off, and so on, but the worst damage that a big wind does is plain desiccation.

There is another ephemeral-plant strategy that seems, in the face of all this, to work—the technique of the bellyflowers. Where rosette plants put in months of careful preparation before sending up a flower stalk, bellyflowers make a practice of germinate-and-go-for-broke.

I notice tiny daisies that seem to have been plucked and pasted flat to the ground; this is Mojave desert star, a bellyflower if there ever was one. Desert stars have been in bloom everywhere we've been, proof positive of their success. I have to look hard to see that the plant has any leaves at all. It's not taking any risks. Weeks after germination there's a flower, followed (quickly) by seeds. Then, if conditions are good, if the moisture holds out, if the heat doesn't skyrocket, it will send out side shoots and make more flowers. And, if the weather cooperates, still more flowers. So desert star can be a single bloom or a mat of bloom.

Ocotillo, a thorny candlewood with scarlet flowers, is planted for fencing. Leaves will appear after a rain.

Good times or bad, these plants bloom

Even non-bellyflowers manage huge variations in mature size. This is a helpful technique for a plant that can't know what the climate will be next—lovely or lethal. So the Bigelow's monkeyflower can be a single pink trumpet emerging from bare gravel or a sturdy multiflowered plant ten inches high. Some popcorn flowers are famously variable; they can grow more than a foot high and sport thousands of blossoms, or—if the weather is less than ideal—they can bloom when they're an inch high and manage a dozen. Either way, they've put seeds back in the bank.

That's what it's called, the bank. Take any spoonful of desert soil and you will find it filled with seeds. What is

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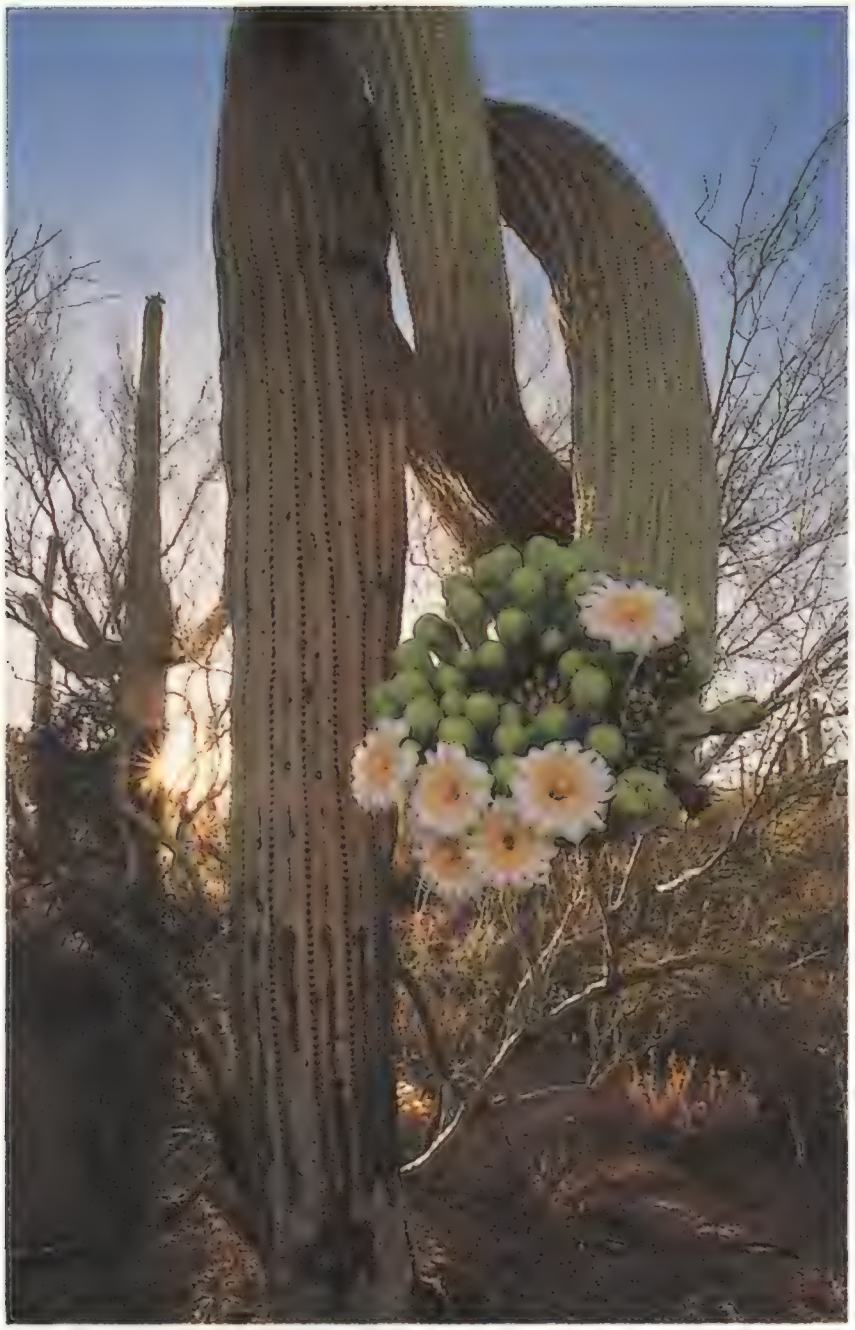

Flowers, buds and fruit belie the twisted trunk of a saguaro. It stores water, thus blooms every year.

in the bank, largely hidden, is astonishing diversity. Species diversity is a hallmark of deserts. One research paper claimed 187 species of plants in a single hectare (2.5 acres) of Israel's Negev desert, more than 60 in a single square meter. Similar research in the northern Mojave, not far from Death Valley, yielded counts as high as 56 species in a square meter in a good year. Even in a poor rainfall year, with biomass down as much as a hundredfold, 42 species were counted in that same plot.

The sheer number of seeds in the bank varies from place to place and year to year, but it is always huge. Here in the Mojave Desert, there are rarely fewer than 4,000 seeds per square meter, and densities higher than 187,000 have been recorded. In the southern Arizona portion of the Sonoran Desert, seed bank densities run between 5,000 and 10,000 per square meter. The record seems to be 230,000 per square meter, down in southeastern Arizona near the Chiricahua Mountains (though no one mentions the numbers of botany grad students who went blind making these tallies).

Deserts contain innumerable niches. A plant can prefer salt flats or sand dunes, rocky slopes, south- or north-facing drainages, the banks or borders of washes; limestone soils or volcanic soils or alkaline seeps. A species may be limited to altitudes above 1,500 meters or above 3,000, or it may hug sea level. It may prefer crevices in slickrock, the cool of canyon floors or the well-drained gravels of an open slope. Or it may do well in disturbed ground—the banks of washes, old agricultural fields, roadsides, overgrazed land. Some of the most colorful annuals are opportunists by nature: they like disturbed ground. Most of these species are doing very well nowadays.

Over time and space, and lots of both, the desert reveals itself. As Tom Wiewandt and I finish our travels for this season, we add our findings to the notes and photographs and experiences of years before, like pieces of a vast live puzzle. We have our favorite revelations: the mysterious appearances of lilies, the disappearances of stars. We have our favorite characters, too, and it happens that desert trumpets are one of mine, have been for years, perhaps because I could find them even in the midst of that drought. The shape of them is odd and a little silly. Their stems are blue-gray and swollen and upright. Sometimes they're a short-lived perennial, sometimes they're an annual. Their capacity to flip-flop gives them an extra edge in a landscape of unexpected events, an edge I admire. Death Valley has been home to at least a trillion trumpets this year.

Some of what is here is not at all subtle, far from it—it will knock your socks off and blow you away. The western Mojave, up against the Coast Ranges, is the country of the California poppy. This poppy is predictable as desert flowers go; in most springs there will be some. But in years when conditions for its growth are ideal, it will saturate the visual sense of anyone who dares to go there and open her eyes. You can hardly call the experience "seeing": these are torchy splashes of orange so hot and saturated they burn themselves in, as if one's mind had turned to molten-orange glass.

Each year's eccentric and individual precipitation pattern will fall on a landscape filled with highly varied kinds of space. And so, each year and in each place, different assemblages of plants come into bloom, different individuals prosper. The diversity of species takes advantage of what is, to the plants, a huge variety of habitats. The variety exists over years. It exists in time.

For this reason, spring in the desert is a time of infinite change. One could make the same journey every year and it would never be the same. The puzzle renews itself, the beauty changes; the desert experience will never be finished.

Flower buds will grow from these bracts of a Joshua tree, a yucca, one of the larger members of the lily family.

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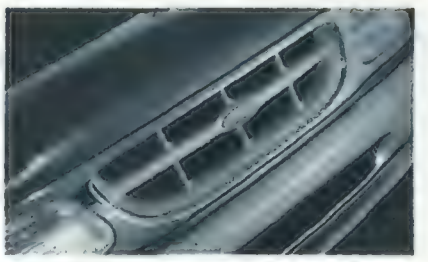

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By Helen Dudar

Merchant Ivory's special take on Thomas Jefferson

In their first feature based on a historic figure, the legendary filmmakers focus on the life and loves of an American in Paris

On this fine Monday in June, the Hall of Mirrors in the Versailles Palace, a vast, overdecorated space with 20 massive chandeliers, an acre of gilt and a population of undusted statues, has become a movie set. The temporary occupant is Merchant Ivory Productions, fabled for transforming high-concept fiction into classy film entertainment. The project is *Jefferson in Paris*, an account of our third President's life and loves during his official stay in France and a picture that promises a lavish, even profitable, controversy when it premieres March 31.

Today's shoot requires the services of scores of extras, properly bewigged and richly costumed in the irrational splendor of the royal court of the ancien régime. There are 14 dressers; there are 27 hairdressers and makeup people, among them numerous women dashing about waving powder puffs; there is a *conseiller en révérence*, an expert hired to demonstrate the proper ways to curtsy or bow as the royal couple strolls by.

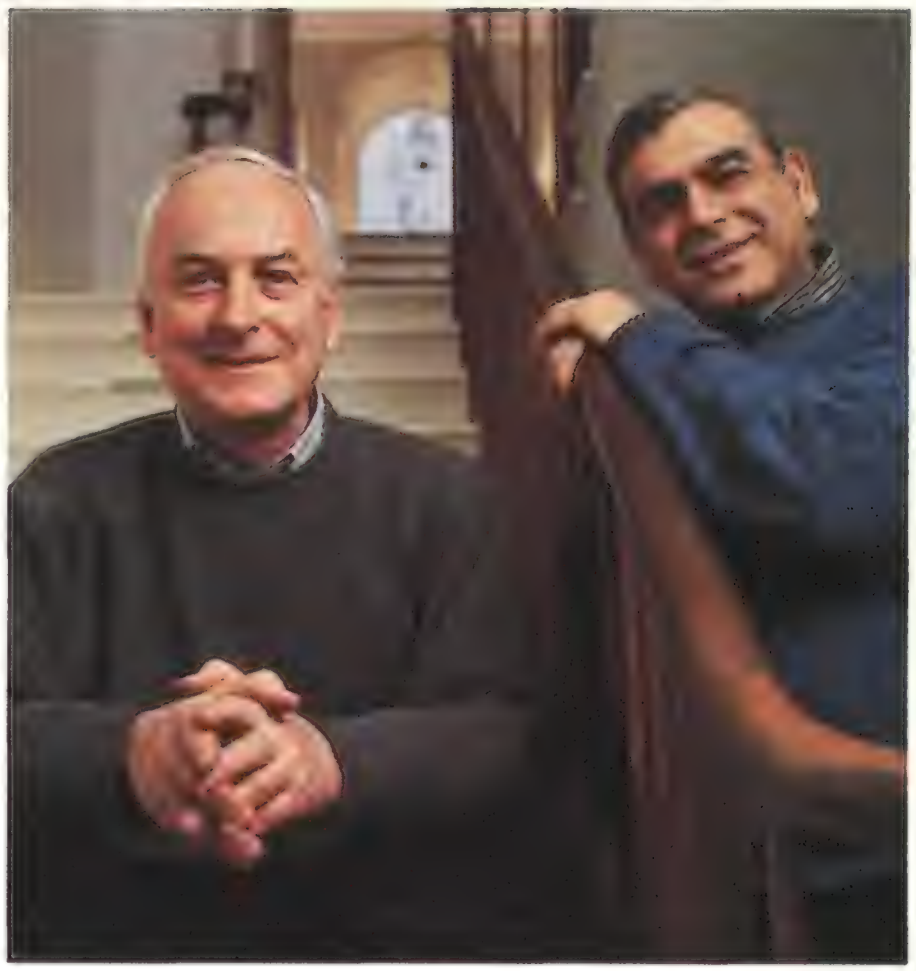
Observing the process of filming is not greatly different from watching paint dry. But in those hours, a visitor can absorb a few of the elements that, in 34 years of teamwork, have made Merchant Ivory a legend as well as an oddity in the trade: the scrupulous attention to period detail; the million dollars' worth of costuming that would have cost any other producer twice that sum or more; the presence of an important actor, Nick Nolte, paying for the privilege of impersonating Thomas Jefferson by collecting a good deal less than the customary inflated wages of superstardom.

By looking hard, an observer might catch sight of James Ivory, whose approach to directing is so low-key it can sometimes seem invisible. More easily noticed and heard, Ismail Merchant, occasional director, gifted money-raiser, maintains his franchise on cost control: during lulls, he can be heard exhorting anyone within hearing range, "All right—let's go, let's go!" Absent is the novelist Ruth Prawer Jhabvala, who has written the script, but who is an irregular presence during production.

As Merchant likes to point out, it is an unlikely team: a devout Muslim from India plus the son of a lumber baron of the American West plus a woman who started life as a German Jew, found refuge from the Nazis in England and married an architect from New Delhi. In contrast to Merchant's overflowing spirits, Ivory is reserved, urbane, sharply observant and, when circumstances require it, quietly forceful. Jhabvala is a reticent, almost shadowy figure, but her novels reveal a woman with an irreverent, ironic wit.

If, as the writer L. P. Hartley tells us, the past is a foreign country, it seems reasonable to count Merchant Ivory among the canniest of cinematic tour guides. Their most successful works have looked to other times—a few years back or many decades back. They have wandered through old landscapes and long-completed lives with the ease of people who feel most comfortable with all our vanished yesterdays. And, we are not to forget that, in great part, they have made movies for grown-ups.

John Abbott



Director James Ivory (at left) and producer Ismail Merchant have been collaborating on films for 34 years.

This long, exhausting shoot in Versailles is taking place mainly because, 11 years earlier, Ivory sat down to read Olivier Bernier's *Pleasure and Privilege: Life in France, Naples, and America, 1770-1790.* Bernier dwells vividly on the French aristocracy and the spendthrift culture that ended in a great national upheaval, a favorite Ivory subject. In Ivory's Oregon boyhood, he was apparently more apt to play French Revolution than cowboys and Indians. Jefferson does not occupy many pages in *Pleasure and Privilege*, but the references are choice. Bernier had come upon a contemporary book by a French nobleman who was profoundly impressed by an encounter with our first polymath statesman. He reported that here was an American who "knows music, drawing, geometry, astronomy, physics and law." A more complete list would also have included gardening and architecture.

"I don't know, something just clicked," Ivory later recounted. He closed the Bernier book, thinking to himself, This could be a good film. For a cool, low-key, culti-

In his Paris garden, Jefferson (Nick Nolte) and Maria Cosway (Greta Scacchi) face the inevitability of parting.

Photographs by Seth Rubin

vated man, that was the Hollywood equivalent of "Wow!"

Without any reading plan in mind, Ivory began his research with Fawn Brodie's 1974 best-seller, the 594-page *Thomas Jefferson, An Intimate History.* Over the next few years, he would read deeply in the subject, but Brodie, a California scholar, provided details of Jefferson's private life that was history in Technicolor. Ivory's imagination was particularly seized by her account of Jefferson's time in Paris. A widower and former governor of Virginia, Jefferson sailed the Atlantic in 1784 as part of a three-man commission that was to negotiate trade agreements with the European states; soon after, he succeeded the ailing Benjamin Franklin as Minister to France. He stayed on until 1789, when the downtrodden French began to lay siege to the privileged classes. In addition to exposing Jefferson to the joys of music, art and theater, Brodie contended, the stay abroad plunged him into two affairs of the heart. The first involved Maria Cosway, a woman of beauty, talent and wit, and wife of a British painter of uncertain sexuality. Although Jefferson was a prodigious writer of letters—18,000 in a lifetime—he was a prudent man, and there is no clear indication in anything he wrote that the association was physical. But Maria's first of two departures for England inspired an extraordinary letter: the famous composition called "My Head and My Heart," an outpouring of love and grief in emotional language totally unexpected from this famously controlled man.

The second woman was said to be Sally Hemings, one of several slave children sired by his father-in-law and part of his wife's dowry. Barely into her teens, Sally accompanied Jefferson's younger daughter Polly to Paris in 1787. When the family packed up to return to America, the pretty, light-skinned young woman was pregnant with the first of seven children conceived, Brodie asserts, during a lifelong relationship with Jefferson. (Only four of these children are known to have survived.) There was gossip in Jefferson's lifetime, of course, but his response to rumors was always silence. The family explanation was that Sally's babies were the progeny of two nephews, sons of Jefferson's sister. Brodie, however, insisted on the likelihood of the Jefferson-Hemings liaison, maintaining that the nephews were seldom around at the times Sally became pregnant, whereas Jefferson was. She also cited an 1873 newspaper interview in which an aging Madison Hemings, one of Sally's children, claimed Jefferson as his and his siblings' father. On its publication, Brodie's book unleashed a torrent of predictable protest. Most of the academic community rejected the idea out of hand.

The first samples of what Ivory expects to be a new barrage of protests were fired last summer. Several Jefferson authorities, hearing of the Jhabvala script, wanted it known that "there isn't one grain of truth" to the Hemings story; one called it an "assault on our history."

Hairdresser Marie France Thibault puts finishing touches on elaborate wig and hat of a Versailles extra.

The question of slavery

With his customary calm, Ivory wonders why people are more upset by the idea of Jefferson's involvement in an interracial relationship than they are by his use of slavery. After all, here was a man who, for 83 years, enjoyed a princely existence supported by unpaid human labor. "It's fine that he had 125 slaves," Ivory says with dry irony. "That he might have fathered seven children with an almost-white concubine who was his wife's half sister is too much to think about."

This movie has suffered its share of the kind of vicissitudes common to little fellows up against the giants of Hollywood. Ivory had begun thinking about the Jefferson film while working on one of his earliest successes, *Heat and Dust.* In the decade that followed, it loitered in his mind as the company, with varying degrees of financial and critical success, turned out *The Bostonians, A Room With a View, Maurice, Mr. and Mrs. Bridge, Howards*

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Versailles' Hall of Mirrors provides an opulent, authentic setting for elaborate procession of Swiss Guards led by the Grand Chamberlain (Alain Richard). Colorful ceremony heralds arrival of king and queen.

End and *The Remains of the Day*. With the exception of *Maurice*, all the scripts were Jhabvala's.

After a false start, this project too was turned over to Jhabvala, who drew heavily from Jefferson's writings. The future began to brighten when Merchant Ivory landed a deal with the Hollywood firm of TriStar, but TriStar was soon in trouble, and Merchant Ivory had to buy back their script. After that, the script traveled from studio to studio—five in all. "The attitude was," Merchant recalls, "'Who wants to see Thomas Jefferson?'"

Merchant, Bombay-born, American-educated, is an outsize figure, ebullient, expansive, boastful, a natural performer whose stage is everywhere, and his optimism is infectious. Even before a script or financing was in hand, he says, John Bright, one of Merchant Ivory's veteran costume designers, had set up a rack labeled "Jefferson" in his London studio and would spend spare hours rummaging through flea markets for period garments.

Money has always been a problem in the company's operations. In the midst of production, crew members' checks have bounced, promised support needed to finish a film has vanished. But Merchant has always managed to find fresh sources of funds. That is merely one of his numerous talents. An exuberant chef, he has written three cookbooks and will on occasion turn out splendid meals for cast and crew. To save time and money, he has taken on small roles in Merchant Ivory films. And last year, he made his debut as a director of a feature film, *In Custody*, shot in India.

Merchant is renowned for his dedication to cheeseparing. Reportedly, nobody in the company travels first-class or stays in luxury lodgings—unless, of course, Merchant has struck a deal on the price. Merchant Ivory's New York office is conspicuously un-Hollywood, a cramped, cluttered, indifferently furnished four-room suite where telephones ring incessantly and three or four employees deftly tend to daily operations while, somewhere, the bosses are hunting finances or making a film.

For *Jefferson in Paris*, both became possibilities with the release in the spring of 1992 of *Howards End*, the hugely successful work based on the E.M. Forster novel. One admirer was Jeffrey Katzenberg, then chairman of the rich and powerful Walt Disney Studios. One day, working in his London office, Merchant picked up the phone to hear Katzenberg say: "You have humiliated all of us in Hollywood. We seem to have lost the art of mak-

New York-based writer Helen Dudar, a frequent contributor to these pages, wrote most recently on Impressionism for the November 1994 issue.

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Balloon bearing a cargo of small animals is sent aloft outside Versailles to entertain royal family and guests.

ing these kinds of films." What was their next project?

In no time, the Jefferson script was on its way to California. Within 48 hours, Katzenberg called to say that Disney would help finance and distribute it. Ultimately, the studio put up about half the estimated $14 million cost, and the rest was raised without much difficulty.

Although *Jefferson* would be the most expensive picture ever undertaken by Merchant Ivory, the company could hardly be accused of profligacy. In 1994 the average cost of shooting a merely average film, without extravagant 18th-century flourishes, was $30 million. But then, not many producers bother to forage for bargains. For example, most of the period fabrics needed for costumes were either found or created in India, where costs are well below prices in Europe, and most of the 400 costumes were assembled in factories there as well.

Everyone who works with Merchant Ivory learns to be sensitive to their economics. Richard Robbins has composed the scores for most of their films since 1979, and when he was ready to record the music for *Jefferson,* he went to Salt Lake City. A Utah orchestra met the requirements at lower costs than symphony groups with bigger names and in more convenient locations.

One *Jefferson* role had been assigned early on—Greta Scacchi as Maria Cosway. Scacchi's breakthrough film role came more than a dozen years ago when she played the restless British bride seduced by a Nawab in *Heat and Dust.* She became a friend of the filmmakers' and often visited them. The actress, who does a wickedly accurate imitation of Merchant's deep Bombay inflections, remembers him telling her five years ago, "You're going to be in our new film. You're going to be in *Jefferson.* Because I made you into a star."

Ivory, of course, is another species of filmmaker. On the set, Scacchi recalls, he says little. If he doesn't like something, he might tell her bluntly, "You really look awful when you make that face. Just don't do that." If he likes a scene, she'll know because one corner of his mouth might lift—ever so slightly—in a ghost of a semi-smile.

"A positive genius for casting"

He rarely voices his approval. "The fact is," she says, "he trusts actors, he likes actors. I remember the day we finished shooting on *Heat and Dust,* he said to me, 'Well, Greta, I think you've done a very good job.'" With impeccable mimicry, her voice goes Ivory nasal and uninflected Northwest. "And I said, 'No thanks to you. You never gave me any direction. You never said anything.' He said, 'Greta, that is *so* rude. I did half your work casting you.'" This was less boastful than it sounds. At least one critic has found in Ivory "a positive genius for casting."

Scacchi's reminiscences were offered over a cup of tea last spring in the café of a Paris hotel after a trying Sunday with a horse. The script has a scene in which Jefferson and Cosway walk through the woods, leading horses. Months earlier, Scacchi, an unenthusiastic horsewoman, had been assured no riding would be involved. Then, on Friday, she learned that the scene would be shot Monday in revised form: they would be mounted. And so she had spent her day in a voluminous 18th-century skirt, perched sidesaddle on a steed.

She plays opposite Nick Nolte. Properly wigged and with a straight nose disguising his own, Nolte bears some resemblance to Jefferson. There are actors who disdain the whole notion of research, but to Nolte, every new character is a crash course in a new subject. He enlisted the assistance of Mel Weiser, a theater director and old friend who helped him accumulate Jeffersoniana, ultimately more than 200 books. From time to time, Weiser would carry a batch of material to Nolte's home in Malibu, and the men would devote two unbroken weeks to the subject: "From early in the morning to 2 or 3 the next morning, we would talk about Jefferson," Weiser related. They visited Monticello and Jefferson's University of Virginia. They studied Virginia speech patterns of Jefferson's time. They spent the better part of a year on the subject. "Not enough time, not nearly

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Jefferson watches his eldest daughter, Patsy (Gwyneth Paltrow), play the harpsichord in the music room of his Paris home. Four months of lessons equipped actress to perform on the authentic 1786 instrument with skill.

enough," Nolte complains as shooting winds down in Paris.

When Scacchi and Nolte met in Paris, virtually the first subject they discussed and settled was the question of whether the Cosway-Jefferson relationship had been consummated. Both were persuaded that it had been. Ivory did not agree, but he was tolerant of the conclusion. He never objected, Scacchi says, when some of their scenes together became obviously sexually charged.

Jhabvala actually gave them a love scene, a passionate exchange in which they never touch. She transformed Jefferson's dazzling "Head and Heart" letter into a parlor game, a high-spirited sequence played out with high-born company in a country picnic setting. In the end, the two are so involved in the "game" that the other players have no chance to participate.

"Nobody cares for him who cares for nobody," proclaims Cosway, the Heart.

"A wise man will only depend on himself," replies Jefferson, the Head.

Scacchi had also researched Cosway's character and had visited Lodi, the small town in northern Italy where, late in life, Cosway established an important college for women. And Scacchi had spent two months finding her way into the strings of the harp, a Cosway specialty.

Music was a passion of Jefferson's, and it is a preoccupation, if not an obsession, of the film. Ivory went to the trouble of hiring a specialist in the music of the time, David Bohanovich, a New York musicologist and founder of a trio called the Jefferson Players. Bohanovich spent months tracking down period instruments and tutoring cast members who were suddenly required to look at home with them. As Jefferson, Nolte learned to appear expert with a violin in hand. After four months of lessons Gwyneth Paltrow (above), who plays Jefferson's adolescent daughter Patsy, still could not read a note of music, but she had become so accomplished on an antique harpsichord that her work did not have to be dubbed.

The movie is framed at its beginning and end by scenes in an Ohio farmhouse. There in 1873, an old Madison Hemings—played by James Earl Jones—tells a reporter that he was fathered by a slave woman and an American President. Between those moments, we learn of Jefferson's time in a great city aflame with pleasure, privilege and the gathering fury of the unfed. We see Jefferson at the opera, at an art show, at soirées in luxurious homes. We see mobs of the poor and hungry looting bread from bakeries and parading poles with decapitated heads through the streets. Jefferson falls in love with Maria and also enters into a relationship with Sally. Jhabvala's script suggests that, in the end, he may have given up Maria as a result, in part, of the emotional blackmail of a jealous Patsy.

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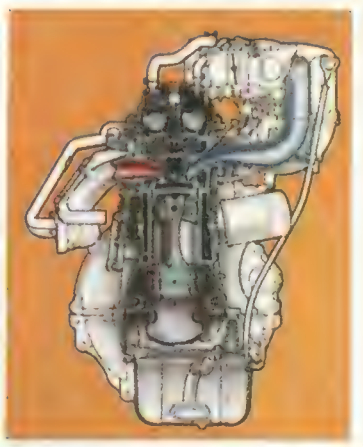

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It must be noted that all Merchant Ivory's attention to the impeccable re-creation of a time and place has not excited unanimous critical appreciation. Among the favorable reviews for most of their movies are usually a few that describe the work derisively as "tasteful."

Merchant's belligerent dismissal of this sort of criticism is that taste has classically been scorned by people who are in short supply of it. Still, both taste and attention to detail are surely the hallmarks of this long June day at Versailles—a Monday, when the place is closed to tourists and thus available to filmmakers. Since the Hall is 260 feet long, there is even room for a small knot of observers. These include the curator of the palace, as well as a Rothschild baroness said to be an authority on Marie Antoinette. Checking out the film's queen, the baroness tells Ivory, "This one looks perfect." He looks pleased.

It is a simple scene. The king is announced. He is Michael Lonsdale, a fine actor cast for, among other assets, his majestic bearing. The king and queen are preceded into the hall by two dozen Swiss Guards. Decked out in red-and-black uniforms, they carry big, clumsy halberds and are embellished with small, matching black mustaches. They march in a rhythmic swish of soles and clump of heels—*swish, clump, swish, clump.* The royal couple appear, move royally down the line of courtiers and ministers, and stop before Jefferson, who introduces Patsy. She is addressed by the queen and, lacking French, looks disconcerted. The end.

After several rehearsals, the scene is shot and reshot and shot again. Once, someone announces, "*Tout fait, merci,*" but it isn't "all done," and cameras roll again. Another time Ivory announces, "That was pretty good," and orders another shot. Between takes, Nolte sits down every chance he has, and since there are only two folding chairs—one bearing a crudely hand-printed label for him, the other for Ivory—his is a privileged position.

The sun, high and bright and warm, invades the room, inflicting pain on Lonsdale. Rising temperatures cause an old foot injury to swell, and by day's end, he has to discard his custom-made, Cuban-heeled period pumps. For the final takes, the royal personage, adorned in unimaginably rich embroidered velvet, wears a shabby pair of incongruously modern canvas slippers. It is after 9 P.M. when, for the last time this day, a pair of assistants shout "Cut!" and "*Coupez!*" The sequence has consumed almost seven hours. It will use up no more than two minutes of the final cut of the film.

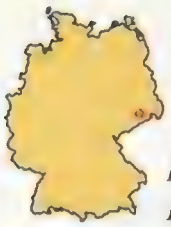
Two days later, working on one of the scenes that closes *Jefferson,* Ivory, his crew, Nolte and two other actors are crammed into a small space representing a corner of the study in the Paris house where Jefferson made his quarters. Merchant Ivory has taken over a nearly vacant building in the elegant 16th arrondissement and turned it into a miniature studio. For the sequence, Jefferson, preparing to return home, is confronted by James Hemings and his sister Sally, played by Seth Gilliam and Thandie Newton. James wants his freedom and the right to remain in France; Sally isn't sure what she wants. In her confusion, she weeps—again and again and again. Once, waiting for the next take, Nolte asks Newton with gentle and amused concern, "How many times have you cried so far?" She's lost count.

Six months later, with the editing completed and the final sound mix awaiting his attention, Ivory pauses to reminisce about one serendipitous occasion in Paris, a touching moment when past and present met.

In Paris, Jefferson had a legendary dispute with the great French naturalist Comte de Buffon, who had argued that America's inferior climate resulted in undersized examples of man and beast. Since Jefferson was much taller than most Frenchmen, that claim was at the very least debatable. To counter the Comte's notion of the size of our native animals, he ordered a moose hunted down and had the dead beast shipped to him.

Jhabvala's script called for an immense live moose to appear in the scene of a Jefferson-Buffon encounter, but finding one proved impossible. At Ivory's suggestion, his art department searched Paris for an appropriate skeleton of the animal. It arrived: "a stupendous skeleton mounted on a wheeled wooden cart." Dumbfounded, Ivory asked where it had come from. A museum of science had lent it, he was told. He bent down and looked at the French label. It said, "Gift of the United States of America to the People of France, 1787." Even in the absence of a donor's name, it appeared obvious that here was Jefferson's moose. If *Jefferson in Paris* needed a happy omen, it would seem to have been delivered that day into the grateful hands of Merchant Ivory.

Young Polly Jefferson (Estelle Eonnet) lingers in arms of Sally Hemings (Thandie Newton) on arrival in Paris.



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By Barbara Holland

Do you swear that you will well and truly try...?

Trial by jury has had some ups and downs, but it beats what led up to it—trial by combat, and ordeal by fire, water or poison

When law and order began, the only court was the head of the family group, and father knew best. His word was law and there was no appeal. If Papa was a bully, maybe Mama could pack up the kids and move to a different family. Or spike his soup with the leaves and berries her mother had told her about. In any case, what happened in the family was nobody's business but the family's.

Presently people developed agriculture and settled down, clustering together in groups of families. We acquired garden plots and portable private property—and controversy as we know it was born. Old paterfamilias still decided family matters, but coping with interfamilial strife called for group arbitration to prevent a homicidal free-for-all (or try to prevent it; the human animal has a natural taste for homicidal free-for-alls). Controversy gave birth to law.

Law is an ever-deepening pile of decisions that, once made, become permanent. This is a great timesaver. If it's wrong for A to steal B's battle-ax on Tuesday, then it's automatically wrong for C to steal D's battle-ax Wednesday, whether the matter is written down or just preserved as remembered usage. We don't need to thrash it out over and over again.

We do need to find out whether C really stole the ax, or if D just lost the thing and blamed it on C. To establish this, we check with the neighbors. Is D a famous liar? Does he have a grudge against C? Has anyone seen C chopping up Saxons with the ax? These folk are witnesses. If we find the ax under C's bed, that's evidence.

The laws are established, facts discovered, witnesses heard and judgment made. These functions have been separated in our fancier world, but in the early tribunals they were all one. The group called in to consider the matter was made up of witnesses; if no law already applied to the case, they made one that would; they talked it over and decided.

They were all amateurs. Laws were so simple that ordinary folk could understand them. Now professionals have taken over the courts and, I hear, get well paid for it, but juries are still amateurs called in for the occasion, unattached to the system. The good thing about juries is that they're amateurs. The bad thing about juries is that they're amateurs.

Rome refined the system and separated the law from the facts. A magistrate defined the dispute, cited the law and referred the problem to a citizen judex—a fellow of some standing—who called in a few associates to help. They listened to the speeches, weighed the evidence and pronounced sentence. (Nobody was supervising them, so it helped if one of them was a lawyer, to explain.) This was more orderly than a tribunal. The Romans were passionately fond of order and wrote down all their laws in books.

They were also fond of a good public spectacle, and a convicted criminal could always opt for the arena and entertain the citizens by duking it out with other criminals or prisoners of war. A talented gladiator not only got to live, but he could wind up as a popular sports hero, surrounded by pretty ladies. The Romans loved a winner, regardless of his criminal record.

Meanwhile, the Scandinavians were gathering regularly in tribunals, called Things, dating back further than anyone remembered. Groups of delegates met to represent their districts, and committees of 12 or of multiples of 12 were picked to administer or invent the laws.

Twelve is the solemn number. When Morgan of Glamorgan, Prince of Wales, established trial by jury in A.D. 725, he wrote, "For as Christ and his Twelve Apostles were finally to judge the world, so human tribunals should be composed of the king and twelve wise men." Maybe, though apparently Christ was following an older tradition. The number 12 crops up all over. The zodiac has 12 signs, based on 12 constellations; we divide our days into twice-12 hours; 12 midnight rings in the witching hour. We buy our eggs by the dozen and undertake semimystical cures in 12 steps. Scandinavian folktales offer us 12 princesses, trolls with 12 heads, and 12 princes changed into 12 wild swans by a troll.

Maybe 12 has ancient powers. After all, the opinion of

"Romans were also fond of a good public spectacle, and a convicted criminal could always opt for the arena, duking it out with other criminals or prisoners of war."

Illustrations by Peter de Sève

"Water was knowledgeable stuff. The innocent sank; the guilty floated, to be fished out and dealt with."

11 jurors is merely an opinion, but the opinion of 12 is magic, transforming the presumed innocent into the guilty like a prince turned into a frog.

So the Scandinavians gathered and chose up groups of 12. (Then as now, the parties could object if they spotted their archenemy or their victim's glowering father among the 12.) They swore to vote justly and then decided the matter according to what seemed to them to be natural rightness.

It's pleasant to think of them meeting century after century for this civilized rite of community justice, a society taking responsibility for its common good conduct. Unfortunately, Northern Europe doesn't remember the Norsemen as calm, thoughtful, reasonable fellows; the Things may have been as uproarious in practice as they were virtuous in principle. Heads may have cracked.

After Rome fell apart, its former empire went all to sixes and sevens, and its orderly laws decayed into gibberish. In Britain, the possibly legendary King Arthur had to send his possibly legendary knights out to ride around righting wrongs and rescuing maidens from sexual harassment, a far from comprehensive judicial system. There were still trials, though, with an ordeal serving as jury.

Great faith has been placed in trial by ordeal, all the way from the Old Testament to the Australian outback. The idea is that something out there "knows" who's guilty and will point to him if given a chance. The chance usually involves fire or water or poison.

Poison was recommended in the Bible and was popular in Africa and Brahmanic India for trials by ordeal. Those who survived at all, though likely to be ill, were considered innocent. The Saxons developed a variation called "corsnaed," a morsel of something that would choke the guilty (perhaps their throats were dry with apprehension). Godwin, Earl of Kent, is said to have choked on his.

Under Saxon law, if you could carry several pounds of glowing red-hot iron in your bare hands for nine steps or walk barefoot over nine red-hot plowshares without getting any blisters, you were not guilty. Similar proof was accepted in Hindu and Scandinavian law. In Britain, Africa and parts of Asia, plunging your arm into boiling water, oil or lead without the usual results proved your innocence.

Water was also knowledgeable stuff. The innocent sank; the guilty floated and could be fished out and dealt with. This was the customary method of identifying witches, who were cross-tied thumb-to-toe before being thrown in. True witches refused to drown and were dried off and burned at the stake.

Alongside this undignified jurisprudence, the Saxons were actually working out a human jury system, but it was available only to the honest. If your neighbors knew you for a liar, or you'd perjured yourself in the past, or,

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"Maybe 12 has ancient powers. The opinion of 11 jurors is merely an opinion, but the opinion of 12 jurors is magic."

presumably, if you were a stranger just passing through, you weren't "oath-worthy" and went directly to the red-hot iron or the drowning pond. But if you were a person of known honesty in your district and were accused of a crime, you swore, "By the Lord, I am guiltless both in deed and counsel of the charge of which X accuses me," and that was that. However, if you were accused by a group, you had to parry with a group of your own, called "compurgators." You asked 11 thanes—freeholders—to join you and swear to your honesty in the matter. If you couldn't round up 11 who believed you, you took off your shoes for the hot plowshares.

In those days, honesty was the best policy. Honesty, and a loyal group of bribable drinking buddies. Ethelred, noticing this flaw, provided for a group of 12 senior thanes to investigate and act as an accusatory jury; 8 votes could convict.

Justice was still a neighborhood matter. Everyone was supposed to know everyone else and have some first-hand knowledge of what happened. Rather recently, we've turned this concept on its head, and juries are supposed to know nothing at all before they sit down in the box—to be but as empty vessels into which the liquor of admissible evidence is poured. In inflammatory cases, the trial even gets moved to another area to ensure the jurors' indifference.

Television's ubiquitousness makes it harder to find jurors sufficiently isolated to qualify: jurors too listless to turn TV on, too apathetic to have an opinion, and too morose even to lend an ear at the watercooler. (Nobody's actually proved that ignorance promises fairness. In fact, a study of English trials between 1550 and 1750 showed that juries overwhelmingly acquitted the people they knew and convicted passing strangers.)

A 17th-century prisoner complained that one of the jurors was a dear friend of the prosecutor's, and the judge snapped, "And do you challenge a juryman because he is supposed to know something of the matter? For that reason the juries are called from the neighborhood, because they should not be wholly strangers to the fact."

In Saxon times, a nosy curiosity about the neighbors was required by law. A regulation sometimes credited to King Alfred (not to be confused with the possibly leg-

Barbara Holland is the author of a book on the lives of U.S. Presidents. Justly or unjustly, she wrote for SMITHSONIAN *about the illustrious Adams family.*

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"In legendary Britain, knights rode around righting wrongs and rescuing maidens from sexual harassment."

endary Arthur) in the ninth century divided everyone into groups, or "tythings," of ten families who were all held responsible for one another's behavior. Canute's law read, "And we will that every freeman be brought into a 'hundred,' and into a tything." Nonmembers were outlaws; members, called "hundredors," oversaw law and order and one another's personal lives. In murder cases, if they didn't produce a culprit within a month and a day, they all paid a fine. Every man was his brother's keeper. This made life simpler for the police, but it seems to be an idea whose time has gone.

The "hundreds" were democratic, mixing the washed and the unwashed and giving the latter a voice. The county court, presided over by the sheriff, met every six months, and 12-man juries chosen for their personal knowledge of a case decided matters concerning their hundred. Below the county court was the court of the hundred, which was convened every four weeks as a local police court, keeping order and protecting rights, its juries sworn to "accuse no innocent man, nor conceal any guilty one." Disgruntled parties could appeal to the king.

Folks back then were so primitive that they thought the victim, rather than the law, had been damaged, and bodily harm was redeemed at so much for a finger, so much for an ear, all the way up to murder, which, in Alfred's time, cost 200 shillings, payable to the deceased's family. (Among the Germans it was payable in sheep.) Thieves paid the value of the stolen object plus a fine; repeat offenders and those who stole from the church paid with a hand or a foot as well.

This would mean that if someone broke your arm while stealing your car, he paid for your arm and your car, and you got to keep the fine and possibly his foot too. Now he just goes to jail, and you get to pay for his room and board with taxes. Progress has been made.

When right made might

When William the Conqueror took over England in 1066, he left the Saxon system in place and added some Norman flourishes, like trial by combat. Combat was a judicial entertainment similar to the gladiatorial, in which right was thought to make might—whoever was right would win. The accuser had to do battle with the accused, causing the small and frail to think twice before complaining, but if you were no good at fighting you could hire someone to fight for you. The man with the fiercest hired help won—rather like hiring the most expensive lawyer today.

(Ordeals fell into disuse in the 13th century, but the right to trial by combat stayed on the books until Ashford v. Thornton in 1819.)

By Norman times, laws were more complicated, so professionals, called justiciars, were sent around to keep an eye on the courts and the rules of evidence, rather like judges. They knew more about the law and less about what had happened than the jurors did.

We were told in school that jury trials sprang newborn from the Magna Carta, but juries were around before 1215. The Magna Carta just guaranteed them as a right not to be ignored by capricious powers like bad King John, but some kings went right on being capricious anyway. In these enlightened times, we merely torch the neighborhood if we don't like a verdict, but back then, juries got punished if the authorities didn't like it. Since juries were still considered witnesses, a wrong vote was considered perjury. Acquitting unpopular or possibly treasonous people got jurors hauled into the star chamber, where a group of the king's dear friends dealt severely with them. They lost their goods and chattels and went to jail for at least a year; sometimes their wives and children were thrown out of their houses, the houses demolished, the meadows destroyed and even the trees chopped down. A prudent jury weighed factors other than the evidence. (It was also the custom for the winner to pay each juror several guineas and take them all out to dinner.)

Humans being cantankerous, jurors occasionally

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Today, defense lawyers go to extreme lengths to find jurors sufficiently out of touch to judge cases fairly.

voted their consciences anyway. Sometimes they even voted against the law. Juries have always given justice a bit of purely human wiggle-room. If they don't buy into the law as written, they can pummel it into shape—and a law under which nobody gets convicted eventually starves to death.

In 1650, under Cromwell, a newly reinstated law called for hanging adulteresses—and scarcely an adulteress was found in the land. In 1670 William Penn was tried for preaching Quaker doctrine, and he couldn't have been guiltier, caught red-handed and far from a first offense. The jurors stubbornly found in his favor and were fined 40 marks apiece for wrongness. Four of them refused to pay and spent a year in prison, until one was brought before the court on habeas corpus, and lo, it was decided that the law couldn't jail jurors for their decisions. We can't put them in jail anymore, but we can select them half to death.

As we limp toward the 21st century, the rural community of nosy neighbors has faded into history, and the problem now is, Who are these jurors? Prince Morgan called them "wise men." Under Edward I, they were to be 12 of the "better men" of the bailiwick. Under George IV, "good and lawful men." (Except for adulteresses, witches and common scolds, legal history doesn't mention women; perhaps they're a recent invention.) It seems to have been so simple then, naming our good, wise, lawful peers. But how do we choose among strangers not necessarily wise but merely registered to vote?

Once the blatantly prejudiced have been sent packing, both sides take up the peremptory challenge of turning down jurors for the way they look, dress or comb their hair. A new professional has sprung up among us, the jury-selection consultant. For the O. J. Simpson trial, consultants submitted an 80-page list of 294 questions for prospective jurors, including essay questions like "What do you think is the main cause of domestic violence?" The theory is that we ordinary citizens are such a bunch of sheep that we'll always vote according to our kind, regardless of the evidence. The more narrowly the consultants can identify our kind, the easier it is to predict the vote.

The differing agendas of the prosecution and the defense complicate matters. Prosecution lawyer Jeffrey Toobin says that when he first came to the bar, he was always told to avoid men with beards (too independent) and teachers and social workers (too sympathetic), and aim for "the little old Lutheran lady in pearls, quick to judge and slow to forgive."

For the defense, Clarence Darrow advised not to "take a German; they are bull-headed. Rarely take a Swede; they are stubborn. Always take an Irishman or a Jew; they are the easiest to move to emotional sympathy." He preferred old men for their tolerance, but Samuel Leibowitz liked them young for their still-fresh sense of brotherhood and avoided self-made men, businessmen with close-set eyes, writers, professors and former policemen.

In his recent book *We, the Jury*, Jeffrey Abramson recommends a patchwork, arguing that the soul of the jury rises out of its diversity, the alchemy of a "collection of wisdom," as people of various ages, classes and backgrounds rub their conflicting viewpoints together to shape a consensus that represents us, the people. (Whether we're levelheaded enough to deserve representation is another matter. Last year an English jury convicted in a murder case after receiving a message from the deceased on a smuggled Ouija board. But hey, we're all we've got.) Abramson, anyway, has faith. He even agrees with Chief Justice John Marshall who once said that it's all right for jurors to have read the newspapers.

Whatever it may read or watch, the modern jury doesn't know what it was designed to know—its neighbors—and a clever lawyer can sometimes play on it as upon a harp. Such was William Howe of Howe and Hummel, defender of the underworld in rowdy post-Civil War New York. Howe was an enormous, lion-headed man with a wardrobe of costumes for his courtroom performances and a talent for crying copiously over any case, however dull. Once he delivered an hourlong summation, kneeling before the jury. Another time he con-

vinced a jury that his client's trigger finger had accidentally slipped, not once but six times. So many of his clients were forgers that his office accepted only cash, so many were thieves that his office safe contained nothing but a coal scuttle—but murderers were his meat and drink. He personally appeared for more than 650 of them. He virtually invented "temporary insanity." He wept; the jury wept. According to a newspaper account, during his defense of Annie Walden, the "Man-Killing Race-Track Girl," the "sobs of juror nine could have been heard in the corridors, and there was moisture in the eyes of all but one or two of the other jurors."

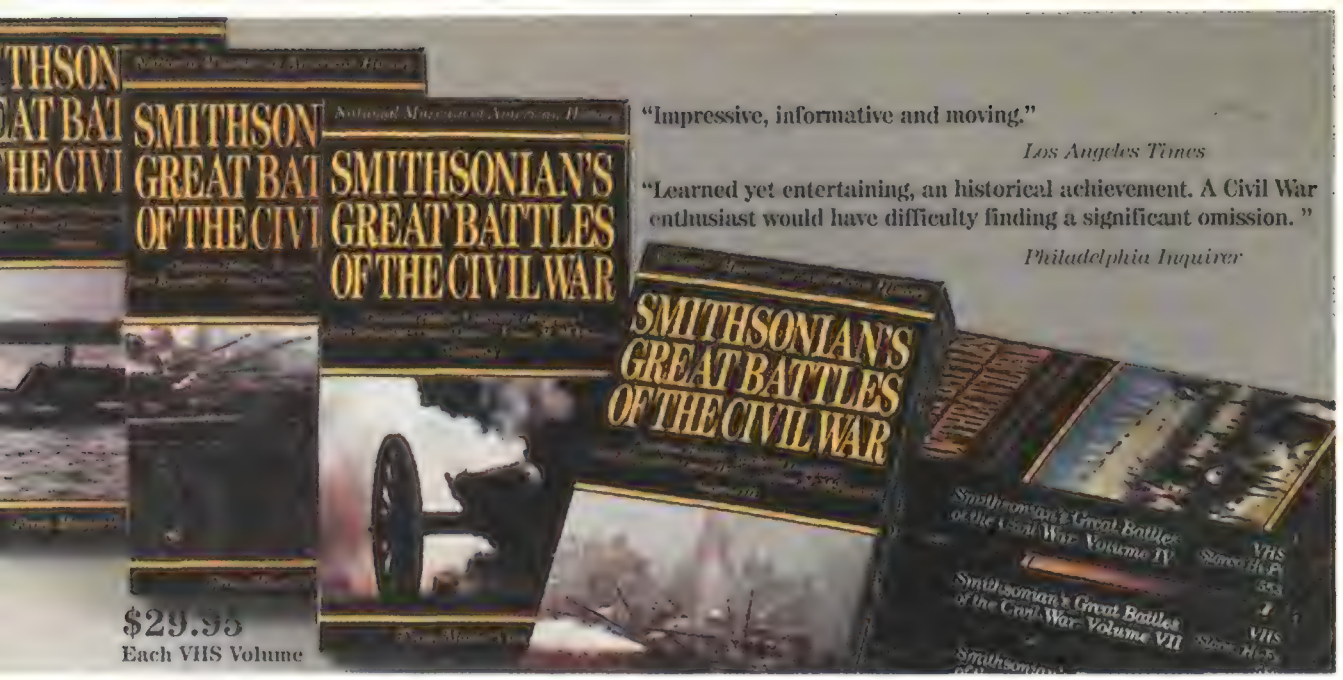
Howe kept a stable of white-haired mothers, distraught wives and cherubic children available to represent the family of the accused. He once pointed out his own wife and child, who happened to be in the courtroom, as his client's prospective widow and orphan. How would a New York jury know? And how the hometown juries of old would have laughed.

Here and there a voice suggests returning at least minor offenses to neighborhood judicial counsels, as in the old courts of the hundreds, taking the law into our own hands where it began. This may be utopian. We don't want to know our 99 nearest neighbors, let alone be accountable for their behavior. Some of us don't even want to read the papers. We gripe about the results, but we leave civil order to the professionals. It wasn't designed to work that way.

British lawyers tell the story of a jury in New South Wales that was considering the matter of some stolen cows, about which the jurors certainly knew more than the court would ever learn. After deliberating, they returned a verdict of "Not guilty, if he returns the cows." The judge was outraged at this insult to the law and threw them back out to think again. Pigheaded and mutinous, they returned with a new verdict, "Not guilty—and he doesn't have to return the cows."

Perhaps justice, if not law, was served.

"William Howe, a famous New York defense attorney, kept a wardrobe full of costumes and props to help in dramatizing his points. He convinced a jury a client's trigger finger had slipped, not once but six times."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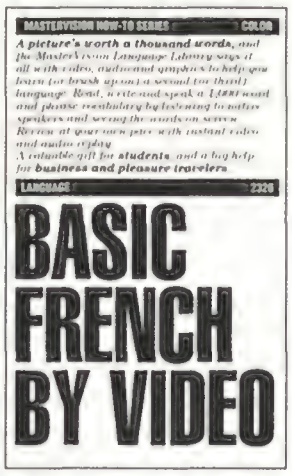
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Smithsonian Magazine

No two of a kind in this show of cards

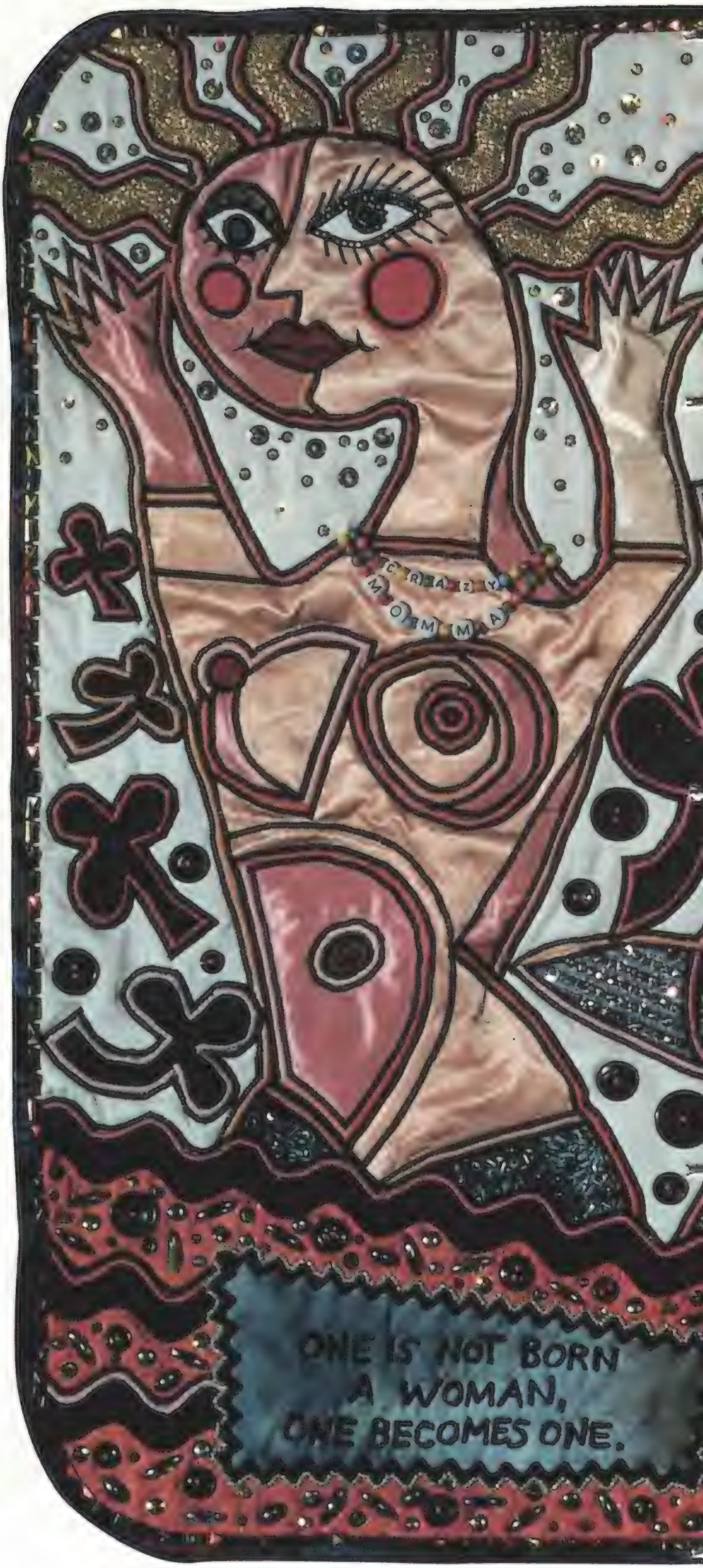
A group of talented art quilters reveal their hands in a stacked deck of unique 'cards' soon to be exhibited at the Renwick Gallery

In the fall of 1992, Maryland artist Sue Pierce had an inspiration. Seeking a compelling design challenge, she hit upon the idea of rendering a deck of playing cards into fiber art. The intrinsic familiarity of cards—from impassioned childhood games of "war" and "go fish" to congenial evenings of poker or solo forays into computer solitaire—made them an ideal subject for artistic interpretation. Pierce saw this potential, drew up guidelines, sent out invitations to professional art quilters and wound up organizing a project of national scope. "The idea just seemed to take on a life of its own," she says. "It became a grassroots effort with the goal of presenting some of the best work being done in the field." In the end, 52 cards plus 2 jokers were dealt out to artists from Maine to California. The resulting 54 imaginative and refreshingly diverse quilted playing cards (18 inches by 28 inches) are now about to go on the road in an exhibition organized and circulated by the Smithsonian Institution Traveling Exhibition Service (SITES). "Full Deck Art Quilts," on view from March 17 through April 30 at the National Museum of American Art's Renwick Gallery, vividly demonstrates the vigor and variety of contemporary American art quilting. "Undoubtedly," says Pierce, "this collection will expand the perception of what a quilt is and what it can be."

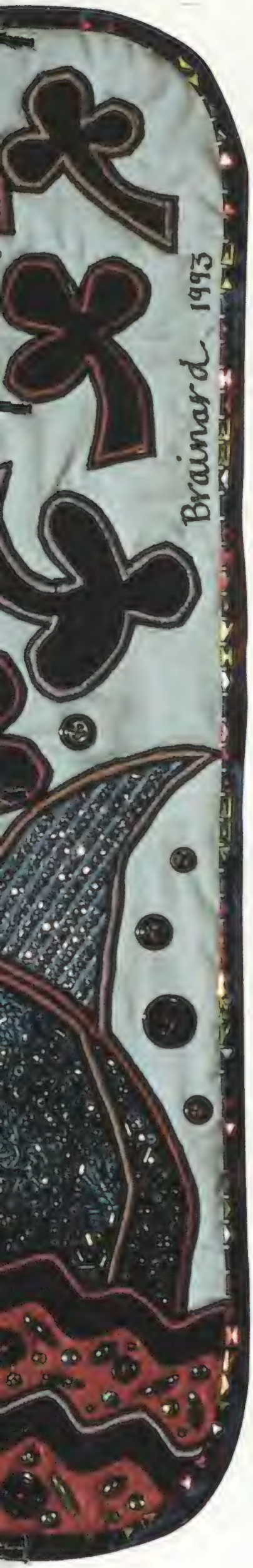
Diane M. Bolz

From top left: *Ace of Spades* by Jane Burch Cochran; *Six of Hearts* by Patty Hawkins; *Two of Hearts* ("Bermuda Hide and Seek") by Marguerite Malwitz; *Two of Spades* by Tafi Brown; *Seven of Diamonds* by B . J. Adams; *Five of Hearts* ("The Poker Party") by Yvonne Porcella; *Four of Clubs* by Katherine Knauer; *Seven of Spades* ("In the Garden") by Natasha Kempers-Cullen.

M. Joan Lintault created silk-screened images for her *Ten of Clubs* clover jungle, stuffed the individual pieces and linked them to form unusual openwork design.



Shimmering, sequined mermaid emerges from sea of buttons in Katharine Brainard's *Eight of Clubs.* Figure offers a wry comment on the role of women.



Husband and wife James Acord and Susan Shie used Native American imagery and materials such as leather and satin for *Joker* ("Shape Shifter").

Karen Felicity Berkenfeld printed, painted and stenciled images of baseball diamond and Jackie Robinson for quintessential *Jack of Diamonds.*

Hand-painted scenes of unspoiled nature, framed by harlequin-like border, adorn *Six of Spades* by Maine artists Gayle Fraas and Duncan W. Slade.

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By Douglas Starr

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In 1940 the hard-driving Harvard biochemist Edwin Cohn broke plasma down into its different proteins—and saved millions of soldiers' lives

It was late November 1943. The U.S. Navy and Marines had spent three days attacking the Japanese stronghold of Betio in the Pacific, in the bloodbath that came to be known as the Battle of Tarawa (SMITHSONIAN, November 1993). More than a thousand sailors and marines were killed outright. Navy gunner Harry Starner—who lost a good deal of blood in the fighting—was one of more than 3,000 wounded. As the medics gave Starner a life-saving transfusion, he looked at the label on the plasma bag and saw his own name: he had donated the blood while stateside several months before.

The odds against such a coincidence were 10 million to 1. As a result of a great national appeal, by the fall of 1943 Americans were donating more than 100,000 pints to the Red Cross each week. To encourage a sense of participation, many Red Cross chapters began having donors sign the labels on the bottles. Like Starner, a corporal in Paris became a news event when he received plasma donated by General Eisenhower.

Just a few years earlier, none of this would have been imaginable. Had it not been for a nationwide mobilization of the medical, scientific and military communities at the start of the war, such large-scale emergency transfusions would not have been possible. By the war's end, millions of servicemen would owe their lives to the new science—and industry—of blood and blood products.

A key figure in the effort was a Harvard biochemist named Edwin Cohn. From 1940 till the end of the war, Cohn headed a project to deconstruct blood—to break it down into its most basic components to find those most useful for the battlefield. His work turned blood from a bodily fluid into a national commodity and launched an entire branch of the pharmaceutical industry. It was not without reason that some publications labeled Cohn the "King of Blood."

It's difficult now to conceive of just how primitive blood transfusions were before World War II. Most hospitals kept lists of "donors on the hoof"—professional or volunteer bleeders who agreed to be available for emergency transfusions. They'd race to the hospital on a moment's notice and give a pint for about $35, which would be pretested for blood type and syphilis before being transfused. As a British cabinet member said, "It [seemed] satisfactory to store our blood in our people." In fact, no one knew how to store blood for very long "outside" of people. It could be preserved in bottles and refrigerated to prevent clotting, but after a few days it lost its potency and could even become toxic.

An irony of war is that this greatest of human tragedies tends to produce scientific advancement of various sorts, especially in medicine. World War I led to a better understanding of bleeding and shock. Field surgeons found that most fatalities occurred not from the direct physical damage of bullet wounds but from loss of blood. When arteries are full they stay open; when empty, they collapse. Doctors found that it didn't take much blood loss to produce collapse. A soldier with enough blood left to technically stay alive would die because his collapsed arteries cut off the blood supply to his vital organs. The condition, called shock, produces an alarming progression of symptoms—pallor, clammy skin and chills, followed by sudden death.

Adding whole blood was an obvious solution to shock—but blood storage was then so primitive that supplies went bad before they reached the front. Another option was plasma, the liquid portion of blood minus the cells. Put into use in the late 1930s, plasma could successfully raise the volume of blood in the arteries, and with a new technology called freeze-drying it could be stored as a powder for two or three years. But the plasma kits being produced consisted of two half-liter bottles—one of dried plasma and one of sterile water. A combat medic had to mix them thoroughly before transfusing. The whole process of mixing and transfusing could take as long as ten minutes, an eternity under fire.

In the spring of 1940, with Germany sweeping though Europe, and Japan conquering China, it was clear that any system relying on bottled whole blood would be essentially useless. So the American military, anticipating the eventuality, asked itself a fundamental question:

Dr. Edwin Cohn, the first man to separate plasma into its components, inspects a bottle of human blood.

In a scene repeated all over the world, comrades kneel beside a wounded man as medics give him a transfusion.

Since there was no way to prevent the shedding of blood, could a way be found to replace it?

One of the people it turned to for an answer was Edwin Cohn, then a professor of biological chemistry at Harvard Medical School. Cohn had spent two decades working with organic proteins, first in bread (with the goal of ending famine) and then in the liver. His work with liver extracts advanced the treatment of pernicious anemia that in 1934 had won a team of chemists a Nobel Prize.

Cohn was known as a formidable character. The son of a wealthy tobacco merchant from New York, Cohn wore a tailored wool suit, spats and a homburg to the lab, and was in all respects punctiliously formal. Colleagues remember him as a man who could talk about anything and everything from Boston politics to philosophy to the design of Renaissance cathedrals. Also as a martinet who ran his research studies as a no-nonsense, production-oriented business. He routinely woke at 5 A.M., caught up on scientific journals in bed for a few hours, then headed for the lab, where he worked until early evening. Back home, he frequently directed aspects of his projects by phone, badgering his assistants often until 3 in the morning.

Early in 1945, to some fanfare, a man donates the one-millionth pint collected by the New York chapter of the American Red Cross.

Fractionated plasma products were kept in cold room of Cohn's lab at Harvard.

Shaken by the news of the German defeat of Norway in the spring of 1940—and by then sure that war was not far off—Cohn resolved to find a solution to treating shock. He decided to find something as effective as plasma but far lighter, smaller and quicker to use. He soon recruited a team of top protein scientists and set up a lab—a couple of large rooms and a cold room for plasma—on the ground floor of Building E, a granite mass along the quad of Harvard Medical School.

Once a week Cohn's assistants drove a beat-up Ford to the Red Cross center in downtown Boston and picked up fresh blood. The next stop was the state public health lab, where technicians would spin the blood in a high-speed centrifuge, packing the blood cells into the bottom, on top of which floated a tea-colored liquid. This was the raw material of Cohn's project, and because he had spent his professional life working with proteins, he felt he knew what to do with it.

Liquid plasma is a clear but complicated solution of water, salt and proteins. It serves a variety of functions, from maintaining a satisfactory blood pressure and volume to supplying critical proteins for blood clotting and immunity. Cohn wanted to isolate one element of the soup that would maintain blood volume more efficiently. His target was albumin—one of many proteins in plasma, but one, Cohn knew, that had powerful osmotic properties. Injected into the bloodstream, albumin would absorb liquid from surrounding tissues, perhaps enough to keep the blood vessels from collapsing. And yet, because it is a single element in plasma and not the whole broth, albumin could do the same thing as plasma while taking up a fraction of the shipping and storage space.

Cohn knew that adding ethyl alcohol to plasma caused the proteins to become insoluble and settle to the bot-

Douglas Starr, who teaches at Boston University, is working on a history of the international blood industry.

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Officer and worker wait to donate blood at a Red Cross unit in Virginia.

tom of a test tube. But all the various proteins would rain out together. He needed to isolate them one at a time.

All through the spring and summer of 1940, Cohn and his men experimented with separating proteins from blood plasma by varying the conditions under which they added alcohol. By precisely adjusting such variables as temperature, acidity and the concentration of salts, they could create the conditions that would cause one protein to separate out, but the others to remain in solution. This process—separating one fraction of the plasma proteins from the rest—came to be known as fractionation.

They soon developed a sequence of steps to separate the proteins in an orderly way. They would pour plasma into a test tube, add ethyl alcohol and spin it in a centrifuge for a half-hour or so. A pellet of protein would form on the bottom, and would be set aside. Then they would fractionate the remaining liquid at a slightly different temperature and salt content, or pH, and repeat the process with the liquid that remained. Each step isolated a different fraction of the plasma protein.

In time they discovered that the proteins in each pellet, or fraction of the plasma, served a different function. Fraction I was mostly fibrinogen, a protein that is instrumental to the clotting process. Fractions II and III contained gamma globulins, a class of immunity agents. Fraction V contained the substance that they sought—a material with strong osmotic properties that could remain stable at room temperature for years. It could be packaged in bottles the size of a man's fist, yet do the transfusion work of freeze-dried-plasma kits ten times as large.

By the end of 1940, Cohn could write: "The preparation of large amounts of relatively pure albumin is now possible. There is practically no upper limit to the amounts of this material . . . that can readily be made available."

Meanwhile the Red Cross was dramatically increasing its blood intake. By late 1941 it had opened centers in seven Eastern cities. Patriotic blood drives enlisted the help of companies and unions, schools and churches. Posters went up everywhere. A typical poster showed a wounded soldier and the caption "He gave his blood. Will you give yours?" Some chapters formed "gallon clubs" to honor those whose donations totaled eight pints.

As more blood became available, Cohn continued experimenting, tuning the fractionation process to get the maximum yield of albumin. Soon the lab was producing a pound of albumin per week and testing the liquid on human volunteers. "We made connections with emergency rooms throughout the city, and they'd call us if they had a particularly bad accident," recalls Dr. Sam Gibson, a clinical tester who worked with Cohn.

They had accumulated a small inventory of the liquid when the Japanese attacked Pearl Harbor on December 7, 1941. The staff had been to a Sunday lunch at Cohn's house—a typically heavy production, with plenty of cake and custard for dessert. Gibson recalls that he was wearily driving home when he heard on the car radio the news of the attack. He wheeled around and sped to the lab, where he found his colleagues scrambling. The military had asked Dr. Isidor S. Ravdin, a prominent surgeon from Philadelphia, to fly to Pearl Harbor and assess the situation; he in turn had called Dr. Cohn and asked for every bottle of albumin on hand. "We sent him a satchel of 50 bottles," Gibson recalled. Until then, doctors had tested albumin only in civilian settings. Ravdin's work at Pearl Harbor would change all that.

At Pearl, Ravdin found hundreds of men shredded by shrapnel wounds and

In 1942 at a Milwaukee, Wisconsin, donor center, a hundred nuns pushed up their sleeves to do their part in the war effort.

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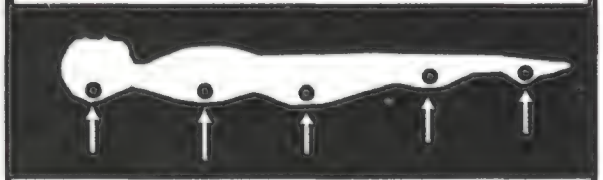

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suffering from flash burns and concussions. The Navy hospitals couldn't hold them all. Doctors set up makeshift trauma centers in barracks and recreation halls. Amid the devastation, Ravdin found several comforting things. The medical personnel had reacted quickly and with distinction. A recent advancement called sulfa drugs worked almost miraculously in battling infection. And the albumin he'd brought proved remarkably effective at preventing shock.

In an impromptu experiment when he first arrived, Ravdin selected seven severely burned patients and injected them with albumin. All showed improvement. One patient was in such critical condition that other doctors questioned whether it was worth transfusing him at all. "He was given a quantity of albumin in the morning," Ravdin reported, "and by that afternoon he was delirious but talking. The next morning he was given an equal amount and the following morning [he] was able to eat breakfast."

A few weeks later Ravdin came home to report his results. By then 87 people had received albumin in various tests with only four minor reactions—enough for the government to organize a national mobilization for albumin, with Cohn at the head. Cohn knew he would need industry's help, but because they had no experience with fractionation he took the unusually rigorous step of insisting that the major pharmaceutical companies send their chemists to Boston, where he and his staff would personally train them.

James Lesh, a chemist who worked for the Armour Pharmaceutical Company of Chicago during the war, recalls: "My boss called me into his office and said, 'Pack your bags, you're leaving for Boston. And take an extra shirt because you may be there for some time.'"

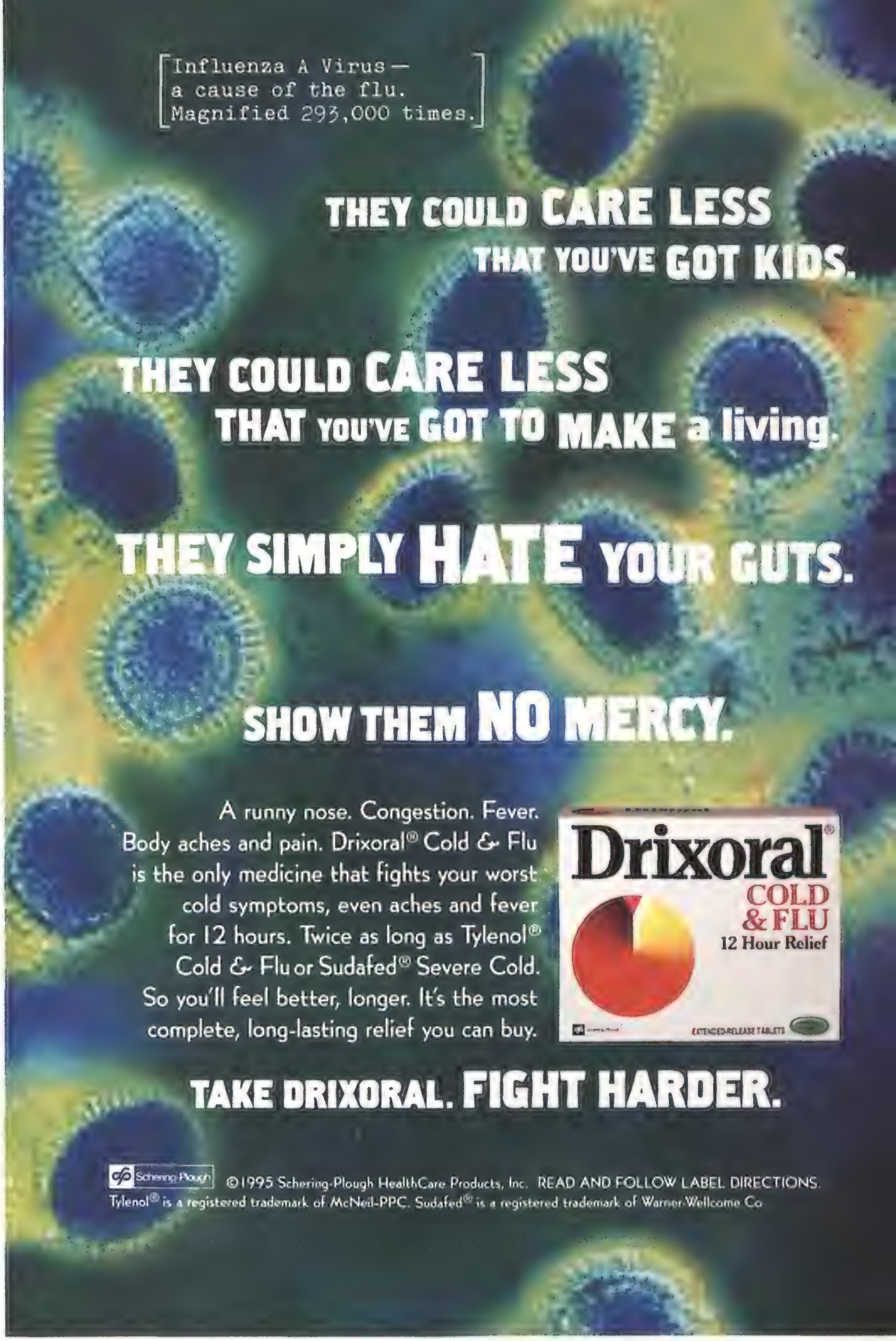
The lab grew from its original dozen members to about 60. It became a small factory, with chemists working round-the-clock shifts. "I was single, so I was given the privilege of working the evening shift," says Lesh. They worked

on a large scale, using vats instead of test tubes. Meanwhile the home offices of the seven pharmaceutical companies started building production facilities—with stainless-steel vats, humming refrigerators and insulated centrifuges, all scrupulously clean.

At first, albumin production went badly. One company lost a quarter of its product in a single incident of contamination. Another threatened to pull out of the program because it could not achieve Cohn's standards of quality control. Another reported that the albumin being produced was killing guinea pigs. Everything shut down while they analyzed the material. Eventually it was found that the preservative being used contained small amounts of mercury, fatal in large doses. They lost six weeks in tracking the cause.

In retrospect, such problems were not surprising. Fractionation was a particularly complicated process. The raw material did not come from mines, oil wells or plantations, but from the arms of human volunteers. The process itself was an exacting series of chemical steps that the inventor kept altering. And the product was destined for the most arduous conditions—from the frozen Aleutians to the jungles of New Guinea; it had to be not only transported but used on airplanes and tossing ships. (In fact, albumin—which was more expensive to produce than plasma—was used primarily where weight and space mattered: on combat aircraft or Navy ships.) Most important, it had to be chemically pure. The slightest contamination would cause dangerous bacteria to proliferate in the rich protein medium, turning a lifesaving liquid into an infectious poison.

Meanwhile, the hardworking research teams endured the demands of the implacable Dr. Cohn. "We didn't have time to think about the medical history we were making," recalls chemist John Ashworth, a veteran of the Red Cross and the pharmaceutical industry who got his start in Cohn's lab. "There was just Dr. Cohn beating on us every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day. It was always push, push, push."

By now, in addition to stockpiling albumin, the staff was collecting a body of Cohn lore. Like a mountain that creates its own weather, Cohn seemed to create an aura around him. He was an original—formal, unorthodox, admirable, terrifying. Everyone had encountered his famous temper. "He could blow up at you in the most devastating way if, in an experiment, your pH was off by a tenth," recalls Ashworth. Veterans remember Cohn walking into the cold room without bothering to don a parka and holding forth about some experiment while the colleagues who trailed him tried vainly not to shiver. "The good doctor never twitched," an associate remembered.

"One hesitated to appear before him less [than] fully dressed," recalled Dr. Louis K. Diamond, a historic figure in blood-banking. Once Cohn called the lab at 2 in the morning to ask how an experiment was going. A young man, informed that Dr. Cohn wanted to speak with him, "hastened to button his collar, tighten his tie and put on his coat before lifting the phone."

Yet for all the anxiety he caused, Cohn inspired dedication and loyalty, sweeping his colleagues along with his brilliance in chemistry and obsession with quality. Many continued to consider their years with Cohn as a high point in their careers.

One of Cohn's dreams was to find a more plentiful and reliable source of plasma to make albumin. The public had responded well to blood drives, but how long would this be so, and would it sustain the enormous demand of global casualties? One possibility was to obtain plasma from cows. Cow plasma chemically resembled human plasma, and byproducts of American slaughterhouses could provide a limitless supply. The only hurdle was the human immune system.

Early in the program the lab provided albumin made from cow plasma to researchers in Boston and Minneapolis, to test on volunteers. They encountered some allergic reactions, but found these could be reduced by purifying the albumin. The program was expanded, and Cohn's teams successfully injected tiny amounts of cow plasma into the skin of nearly 3,000 volunteers from hospitals, prisons and medical schools. Things were looking hopeful until July 1942, when a 62-year-

Mules like this one on the Italian front carried plasma and albumin for emergency transfusions to even the most remote theaters of war.

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old patient in a clinical trial reacted with classic signs of serum sickness: fever, anemia, discoloration and welts.

Dr. James T. Heyl, who meanwhile had been working with volunteers from the Norfolk State Prison Colony outside of Boston, encountered worse news. Of 66 men injected, nearly a third later developed allergic reactions. One man died.

Cohn felt that such reactions must be due to a chemical instability that caused the albumin protein to disintegrate after several days. But even though they refined the fractionation process to dramatically increase the protein's stability, the adverse reactions were never entirely suppressed. Unwilling to jeopardize more volunteers, Cohn regretfully set aside his hopes for an inexhaustible blood supply. Attending the discussion of the prisoner's death, Lt. Col. Douglas Kendrick scribbled in his notebook: "Bovine albumin is now dead as a dodo."

By July 1943 the seven companies were producing more than 11,000 bottles a month of human albumin. Cohn was not satisfied. "We ought to be doing over 25,000," he declared. He had given the companies the formula on the condition that he personally manage quality control, and he kept a steely hand on the process. Every time a company produced a batch of albumin, it sent a sample to Cohn's lab to be tested for purity.

By September 1943 the lab and its affiliated companies had sent more than 60,000 units to the military; by November that amount had doubled. Blood was rapidly becoming an industrial commodity, from collection to processing to shipment to the front. The Red Cross had donor centers in 35 cities and in 63 traveling vans.

After they drew blood, Red Cross teams would precool the bottles with dry ice, seal them up in huge ice chests—each weighing 400 pounds, with as many as 80 one-pint bottles—and ship them by Railway Express. Each collection center sent its blood to the nearest lab for processing, and spe-

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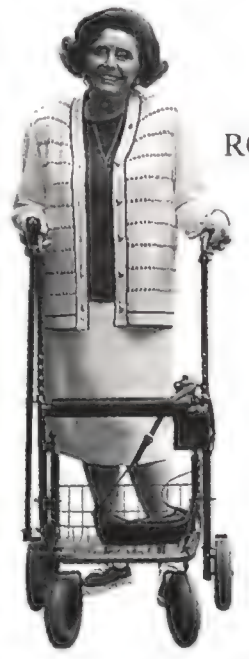

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cial train schedules were arranged so the blood never traveled more than 24 hours to reach its destination. Special security teams were assigned to each shipment to prevent sabotage.

Once at the labs, the blood was spun in large centrifuges until the heavier red cells were separated out so they could be discarded. A dozen labs made dried plasma, seven made albumin—both to be shipped again to military depots, and so overseas.

Both blood products created a sensation on the battlefront. Field surgeons delighted in how the liquids allowed them to triumph over shock. Now wounded soldiers who received plasma or albumin were likely to live long enough to undergo surgery. Doctors described case after case of wounded men apparently all but dead, who a few minutes after receiving albumin or plasma "would be sitting up and talking, with all the life and color back in their faces." In an effort to keep blood donations coming, medical officers gushed about both plasma and albumin to war correspondents, though both tended to be described in newspaper accounts as "plasma."

"Doctors asked me at least a dozen times to write about plasma," recalled the well-known war correspondent Ernie Pyle. "'Write lots about it, go clear overboard for it. Say that plasma is the outstanding medical discovery of the war.'"

In January 1944 Turner Catledge wrote in the *New York Times*, "This war is writing an epic in the world's medical history." *Life* magazine photographer Carl Mydans described "combat medics in bouncing jeeps," holding transfusion bottles high "as though bearing a torch . . . shrouded with a godlike grace."

Plasma and albumin arrived by parachute, landing craft and Jeep, even by burro in the South Pacific jungles. One reporter told how American doctors gave a crate to a German field hospital on the condition that the doctors also use it for captured G.I.'s. Photographs showed gritty American medics infus-

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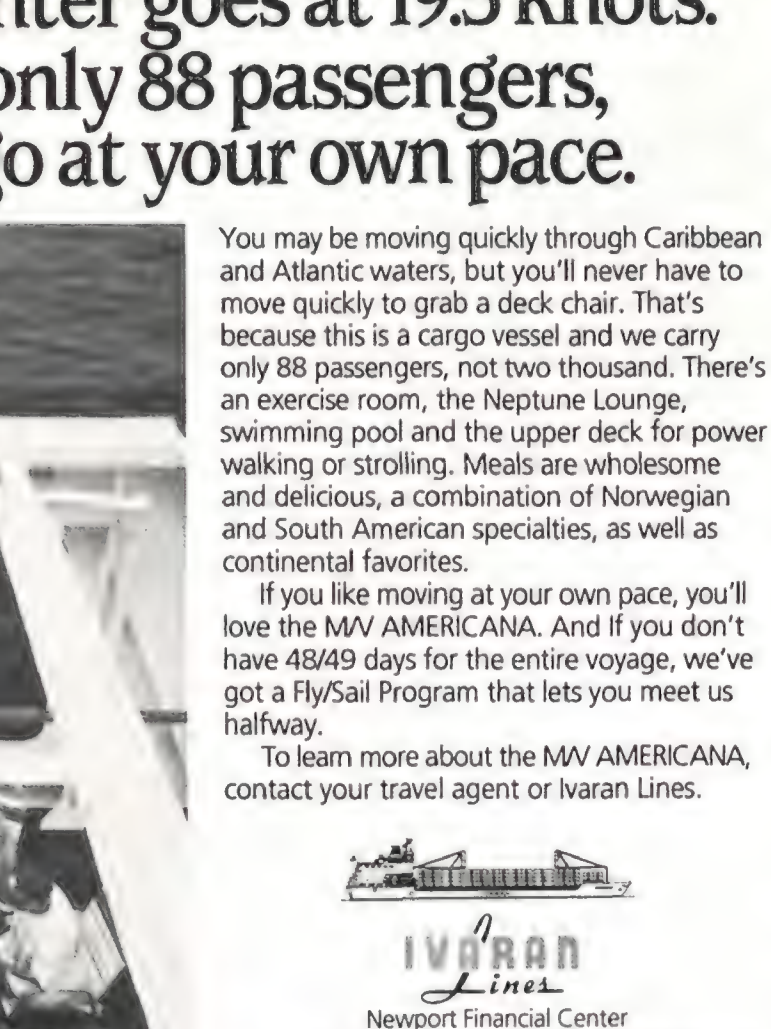
In New Guinea, local tribesmen carry blood products on makeshift litter.

ing civilians and even enemy prisoners. The transfusion bottle became an icon for American genius and, even in war, American compassion.

Short-order blood would become a theme in the ongoing chronicle of bravery under fire. In one bloody battle the Marines even nicknamed a certain hill in New Guinea "Plasma Ridge." "For there, under terrific Japanese fire," the *New York Herald Tribune* reported in 1944, "men of the Marine Medical Corps crawled forward on their bellies, carefully shielding precious bottles of plasma."

All this pleased researchers in Cohn's lab but only increased their work load. As the production of albumin moved steadily ahead, they began looking for ways in which the discarded blood fractions might be put to medical use. Cohn's team produced gamma globulins, a class of immune agents derived from Fractions II and III that are effective against measles, a scourge of Army bases at the time. They developed laboratory reagents for quickly determining which of the four main blood groups a sample belonged to. They produced fibrin film and fibrin foam, which doctors used as organic patches in delicate operations such as



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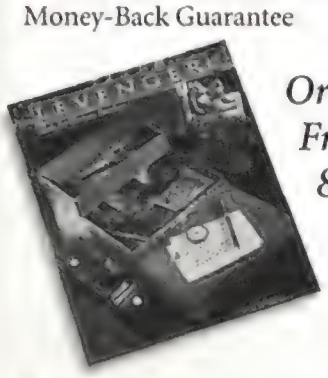

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brain surgery. The grateful military commissioned them all.

"Cohn considered [plasma] a great human resource," wrote Dr. John T. Edsall, professor emeritus of biochemistry at Harvard and a veteran of the lab. In fact, he couldn't bear the thought of wasting a single bit.

Despite the successes of plasma and albumin, doctors knew that the best transfusion therapy would involve whole blood itself, if only it wasn't so perishable. In time, the British developed better preservatives, and the Americans improvised portable refrigerators. By late in the war whole blood could remain potent for 21 days if kept cool.

In August 1944 the Red Cross shifted gears to take advantage of this improvement. They established special procedures for storing whole blood in blood banks. They collected only type O, which members of all four main blood types can receive, mixed it with preservative, sealed it in vacuum bottles and shipped it to the military in expendable refrigerators.

Whole blood now traveled to the field hospitals with plasma and albumin. Preparing for the Normandy Invasion, in the spring of 1944 the Allies created a vast supply house in southern England. They knew that any concentrated collection activity would tip off the Germans, both to the time and the place of invasion. So for months, military vehicles made dummy runs around England to disguise where the real collections took place. When the Allies finally invaded, every landing craft carried ampules of albumin; bombers were dropping plasma by the end of the first day. Soon American cargo planes laden with blood products were touching down in Europe every 13 minutes.

The Navy, meanwhile, had established a supply line to the Pacific. They collected blood from depots in San Francisco, packed it in plywood chests insulated with fiberglass and flew it to Pearl Harbor or Guam, there to be reiced and flown to the front. Total transit time: 48 hours.

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Fighting men received it jubilantly. "Blood is indeed the stuff," Marine Sgt. Ralph W. Myers wrote from Iwo Jima, exulting over "bottles of blood, whole and plasma, lashed to poles and to upended rifle butts . . . human blood that was flowing in the veins of American men and women is saving the lives of heroic Marines."

And at last, as one Allied victory followed the next, the need to replace blood decreased. By the fall of 1944 Cohn's fractionators scaled back production. When the Germans surrendered in May 1945, the Red Cross closed all but ten of its centers. In August, when Japan capitulated, they shut down the whole system. They locked up their files, returned rented equipment, terminated leases and said goodbye to employees and volunteers. An entire wartime industry had closed.

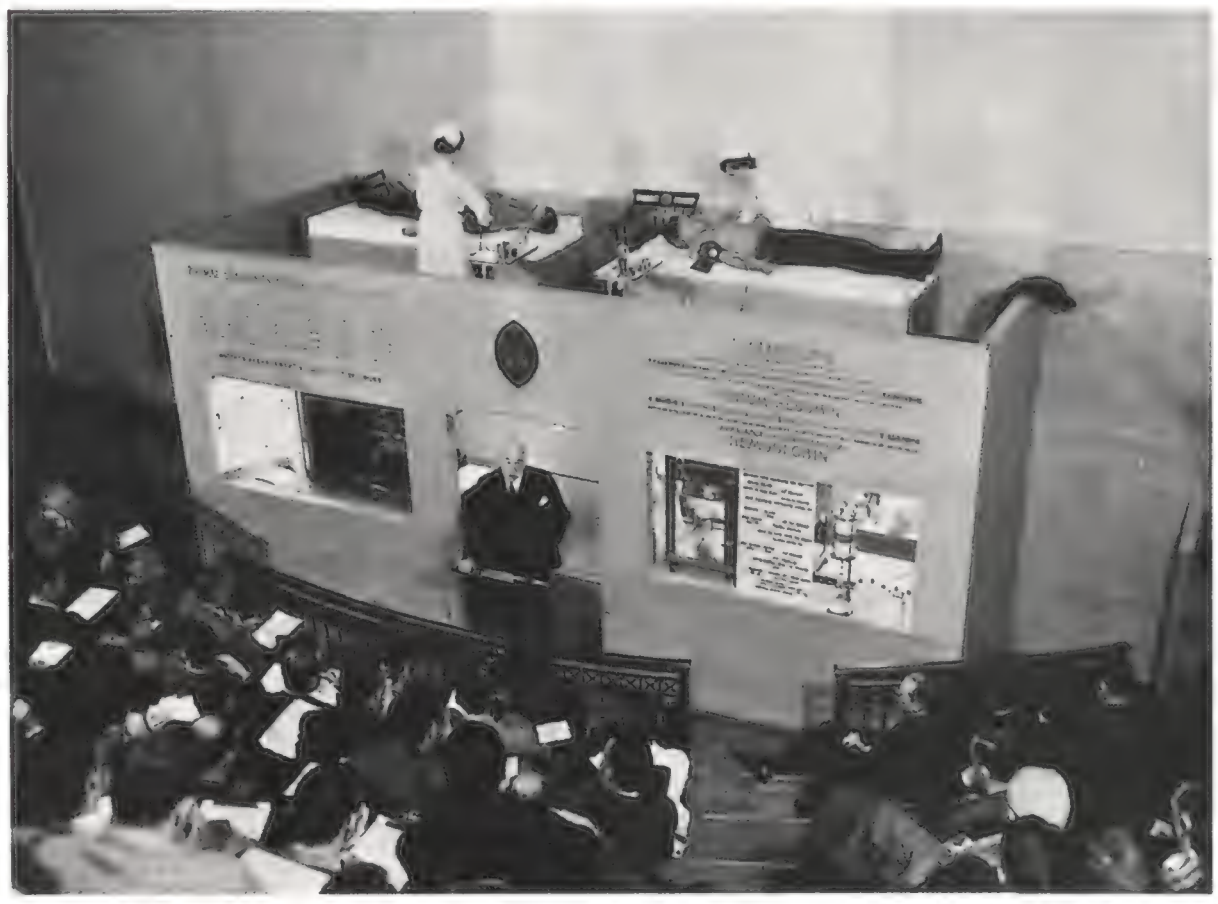
In four and a half years Americans had given more than 13 million pints of blood. These donations fed an industrial machine that produced hundreds of thousands of gallons of plasma, albumin and pharmaceuticals, which in turn saved uncounted and uncountable lives. No mobilization has quite equaled it in scope or vision since.

But transfusion therapy had entered a new era. Hospitals everywhere were demanding blood products. Some formed their own blood banks; others set up organizations to share blood. By the late 1940s the Red Cross began collecting again. Today, with more than 1,900 chapters throughout the United States, it has become the world's largest handler of blood.

Cohn's fractionation process has become big business. Scientists have continued to refine the process, deriving 20 products from plasma, ranging from immune agents to lab reagents to concentrated Factor VIII, the life-saving serum that hemophiliacs rely on to help clot their blood. Fractionation plants in more than 40 countries now manufacture products worth more than $8 billion per year.

In 1953, at the age of 61, Edwin Cohn suffered a massive stroke and died of a cerebral hemorrhage. Shortly after the war, he had given away the patent rights to the process he developed. Blood, he thought, should be used for the good of all humanity. He never made a dime out of fractionation.

Backed by two nurses busily taking blood samples to illustrate his lecture, Dr. Cohn delivers a talk on albumin at Harvard University.



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Book Reviews

The Primary Colors
Alexander Theroux
Henry Holt, $17.95

If you were to open a book at random and read the sentence "Oscar Wilde collected Blue Willow china," you might wonder what sort of book it was. Possibly a biography of Wilde? A guide to collecting old china? Or even a treatise on the curious habits and passions of collectors? If you were to suspect that you had stumbled upon an anthology of trivia, you would be closer to the mark. Yet this collection of essays on the three primary colors—blue, yellow and red—crammed with bits of information you are bound to forget before you've finished the next sentence, turns trivia into a high art. Each of these essays is like an Abstract Expressionist painting in one color, where words and facts replace the splashes and drips and brushstrokes in front of your eyes.

And like abstract art, the meaning of each essay is the writing itself, not really what it might be about. Alexander Theroux makes each color an excuse to let his mind, and the reader's, wander through worlds of science, art, literature, the movies, food, natural history, gossip, travel, history, music and most other branches of knowledge, experience and imagination. It would be almost impossible to index all the tributaries and offshoots of his stream of consciousness. All one can do is enjoy the wandering.

Consider how he introduces yellow: "It is the color of cowardice, third prize, the caution flag on auto speedways, adipose tissue, scones and honey, the nimbus of saints, school buses, urine, New

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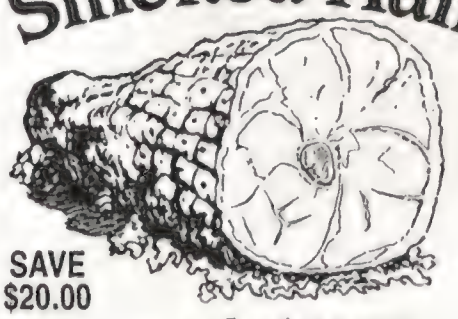

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Mexico license plates, illness, the cheeks of penguins, the sixth dog's livery in greyhound racing, highway signs, Pennzoil and the oddly lit hair before adulthood of all Australian aborigines."

The way he lets one fact lead to another in these essays has little or nothing to do with logic, but rather reflects on that intricate, exquisite, multidimensional spiderweb of neurons, the brain, wherein one thought can excite an unpredictable cascade of ideas, images, memories and other mental associations. Watching Theroux's brain at work is more like watching a pinball machine than an abacus.

Just watch. Here he meditates on the negative connotations of the color red: "Dr. Jekyll's evil potion in Robert Louis Stevenson's tale is 'a blood red liquor.' It was 'highly pungent to the sense of smell and seemed . . . to contain phosphorous and some volatile ether.' The name Holly Golightly used for hyperanxiety in Truman Capote's novel *Breakfast at Tiffany's* was the 'mean reds' ('when you're afraid and don't know what you're afraid of'). The Santa Ana winds—red wind, some people call it—blow in hot from the desert. The *pika*, that blinding flash of atomic light in Hiroshima on August 6, 1945, brighter than a thousand suns, its searing heat 300,000 degrees centigrade at the hypocenter, was red."

In the essay on red we also find, "There is the three-hundred-year-old Rauchbier establishment in northern Bavaria, famous for its smoked meats and smoked beer, the old walls of which are still regularly painted with pure ox blood." And, more delicately, "The living room of Dorothy Parker's Bucks County, Pennsylvania, farm, bought in 1934 with Alan Campbell, her second husband, was painted in (count them) *nine* shades of red: pink, vermilion, scarlet, crimson, maroon, raspberry, rose, russet and magenta."

Like small rocks and pebbles washed along in Theroux's stream of consciousness, we bump into all kinds of information. It is hard to imagine finding all these sentences in any other mind. He seems to have read most of the books, been to most of the places, seen most of the movies, tasted most of the exotic dishes, looked at most of the paintings, and admired most of the natural and architectural splendors in the history of Homo sapiens.

Architectural splendors are a good example. As a variant of yellow, Theroux mentions Cadillac Gold. This makes him think at once of Donald Trump: "Donald Trump hated the original flat yellow handrails at the Trump Plaza. 'See that gold Cadillac down the street?' he told his interior designer. 'That's the color I want those handrails. Gold. Cadillac Gold. Not yellow like a daisy.'" And two paragraphs later we are gazing toward the other end of human history: "The single arch in the desert of Ctesiphon, lutescent and venerable, the largest single span of brick ever made by man, is all that remains of the ancient kingdom of Parthia."

Theroux takes us to many places. We find that the "most popular room at the Savile Club in London, founded in 1868, is the Sandpit, so called because of the yellow-beige decor of the sofas and armchairs around the fireplaces."

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Elsewhere, the "lemon-bright shop of Poujauran, that matchless patisserie on 20 rue Jean-Nicot in Paris, is, I would endeavor to add, also one of the great yellow places in the civilized world."

The Blue Room in the Smithsonian's National Museum of Natural History, "actually a sort of inner-sanctum lock-up vault for rare gems and not open to the public," he notes, "is painted government-issue blue and carpeted in an equally drab blue." Then he gives us a peek at his own bedroom: "My favorite blue, used on the walls of my bedroom, is a Benjamin Moore paint that being custom-mixed I had taken deeper, deeper, deeper. The formula is #832 plus BB3X, MG-1X, RO-1O."

An idiosyncratic history of art and film emerges in these pages. We find, for example, that "Douglas Fairbanks, a man whose swarthiness resembled an eggplant's, had dozens of yellow pajamas of heavy silk made for him in China." And that James McNeill Whistler indecorously wore yellow socks to the "Yellow and White" exhibition at London's Fine Arts Society in 1883. On Cézanne's apples, Theroux gives D. H. Lawrence's opinion that they were more important than Plato's ideas; and he quotes Raoul Dufy's retort to a critic who questioned the impossibly poetic blue of his seascapes: "Nature, my dear sir, is only an hypothesis."

I can imagine Theroux, were I to call his wordscapes a mindless mountain of information, replying that the mind, my dear sir, is only an hypothesis. And perhaps that is the point of his book.

There is so much else in it, I can share with you only a few of the sentences I enjoyed bumping into. I cannot place them in context. There is no context:

"Disraeli loved pyramids of strawberries on golden dishes."

"Incidentally, August A. Busch, of the beer family, often served his guests suckling pigs with red-painted toenails."

"Regarding wretched excesses, in the 1970s there were leisure suits that had both the nap and color of baby vomit."

"Nostradamus prophesied that the anti-Christ would wear a blue turban, although in Sikhism that very same symbol signifies a mind as broad as the sky."

"And the flowers of melilot, often used to flavor beer—and also cheese—are bright yellow, like scorzonera, a perennial plant with a root not unlike a carrot. . . ."

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And of course, the sentence we began with, "Oscar Wilde collected Blue Willow china."
Paul Trachtman is a freelance reviewer who lives in rural New Mexico.

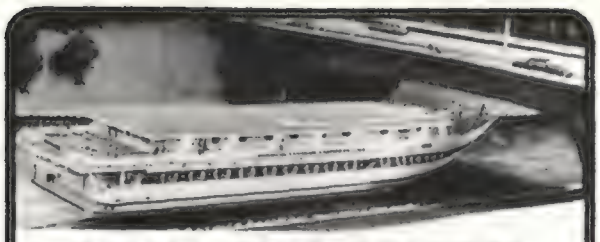
A Naturalist in Florida
Archie Carr
Edited by Marjorie Harris Carr
Yale University Press, $28.50

All of us who write about science and nature while lacking credentials have encountered the species *Professorum elitistum obnoxia* (scientific name approximate), the expert who disdains unlearned writers and takes refuge in the sanctuary of technical language and journals. Dealing with one another is a hazard of the trade, theirs and ours. I've often thought that this attitude was a comfortable, self-righteous way to shuck the responsibility of communication. Nature is too important to be left to such scientists, which is all the more reason to be thankful for Archie Carr.

Carr, a former zoologist at the University of Florida who died in 1987, should have taught a course in nature writing for PhDs. This collection of his pieces about the exotic, extravagant fauna and flora of Florida, edited by his widow, is such writing at its best. He described the wildlife and wild places of the state he loved with a combination of scientific savvy, poetic imagery and humor, cleverly shoehorning in the thematic points. Such deviousness was necessary, Carr believed, because of the reading public's impatience with what he called "garment-rending" and "tooth-gnashing" lamentations for The Way It Used To Be.

Carr could describe a spider trying to reel in a worm ("The second legs still shared the optimism of the first. . . . But the third legs quite clearly showed diminished verve") or a hound investigating a box turtle in language that deserves to be called literature: "Hounds often drop whatever business is at hand to attend to a box turtle. One dog may stop and lie quietly, muzzle between paws, to regard a disinterested tortoise with unaccountable emotion, or even raise his head from time to time to voice his feeling in the low, soft, eerie moan of a bereaved oboe." Sometimes, he recalls, a hound would "trot brightly up and show me a box turtle that he had found, confident of applause and pained when it failed."

And here he is on the stillness of night



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in the live oak, Spanish moss forest, where there is "a quiet so deep you could hear a wolf spider charge a cricket across the dry oak leaves. The rustle of a spadefoot foraging was like a buck in bushes; the repeated squeak of a flying squirrel, in lingering concern over a barred owl's bellow, seemed a strident noise. The moon blazed and faded . . . and one moment the vaulted rooms of the moss forest were flooded with silver light, and next the glow-worms down at the pond edge were torch-bright in the dark."

Florida is notably hospitable to this kind of writing and meditation. I remember working on a story about alligators and having the opportunity to census gators in a Florida lake by eye-counting with rangers who could tell a gator's size by estimating the distance between its bright, orange-red nocturnal eyes. A single swing of the spotlight would turn up three or four dozen pairs of implacable eyes. Carr could identify a dozen species at night by their eyes—spiders, moths, possums, swamp rabbits and, if a "pink, moonlike light holds steady in your beam, not moving about but only blinking a bit . . . obviously the eyes of some calm, contemplative animal," spadefoot toads.

Carr's charm may be his peculiar blend of the scientist and the good ol' boy. He was a zoologist who confessed that he had "Jekyll-and-Hyde compulsions both to learn about the natural history of animals and to eat them." He was unapologetic about being a Southerner, and he had no trace of the "redneck" or "cracker" attitudes some people assume belong to the South. He knew some of those stereotypical "boys," though, and often enjoyed their company. One piece in this collection, amid the essays on carnivorous plants, turtles and alligators, describes deer hunting with a pack of hounds and his cheerfully profane friend T. J.

"There is always something," Carr writes, always "bits of the old wild left around" despite the century-long devastation of the Florida wilderness. He notes the concern among some about the spread of the great toad, a baseless worry because "a toad can't hurt people unless they bite it, and few people bite toads; those that do can be considered expendable." He finds sturgeons in the Suwannee River with temperaments so placid that they "even remain calm when dogs lick them." (A big old live

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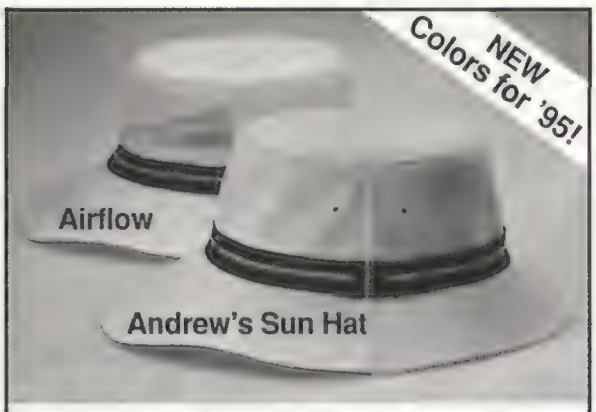

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oak tree without moss, he writes, is "like a bishop in his underwear.")

Only rarely, and against what seem to be his natural impulses, does Carr rise to indignation, notably when he contemplates an insidious public relations drive to convince Floridians that tidy pine forests planted by lumber companies are the same as the wilderness forests they replaced, a campaign with the amazing slogan "If You Think It's Beautiful Now, Wait Until We Chop It All Down." "In the long run," he writes, "the most destructive enemy of the natural world will turn out to be the capacity of humans not just to change nature and environment but to be persuaded to like the changes, no matter how dismal they are." It is refreshing to see Carr angry, and regrettable that he's not still around to maintain a gentle, informed and passionate watch on what we're doing to nature in Florida.
Donald Dale Jackson writes from his home in Connecticut.

Driving to Greenland
Peter Stark
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"From my earliest memories I associated my grandfather with ice, and my father I associated with snow." With this image—two men leaping to mind in the form of Norse gods, beards rattling with frost, eyes blue and brutal, breath like winter wind—Peter Stark begins this sturdy collection of essays on a life spent largely outdoors in cold weather.

"I think to the north," Stark writes, for the book is in part an expression of temperament, of a largely inborn affinity to one of Earth's four moods. The feeling springs from too great a depth to be conditioned, like the terrifying sense of recognition—the rising in your ageless blood of something that is finally coming home—as you climb for the first time the stony hilltop of Mycenae.

Young Stark "collected the secrets of snow and ice the way that other boys collected snakes and rocks, and savored the power of ice heaves and avalanches like other boys keened after fighter planes and large guns." Now 40, Stark has retained his passion, deepened it, plumbed its limits as an athlete and outdoorsman in the media of ice and snow.

For the second essay, "Leaps of Faith," he ventures to Ishpeming, Michigan, to take a 30-meter flight from a Nordic ski jump: "There's nothing frilly or baroque about it. You go straight, you

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Nor is there anything frilly or baroque about Stark's language. His style is clean and straightforward. In passages of memoir he manages intimacy—anxieties of youth, love affairs, his father's two suicide attempts—without a whiff of sentimentality. And his reflections on snow and ice can wax philosophical, can even enter the realm of the metaphysical, without alarming.

"Sliding to Glory" puts Stark on a luge at Lake Placid. "Steered true," he writes, "a luge sled runs nearly silent, its journey down that twisting tube of ice accompanied by little more than the low whir of polished steel runners cutting cleanly across the sculpted surface at 50 or 60 or 70 miles per hour.

"So when something goes wrong, you can hear it happen."

Dimitry Feld, Russian immigrant, former dog-grooming instructor and U.S. Luge Association coach, gives Stark the drill for beginners: "'Go get sled and helmet,' he said in heavily accented English, 'and I show you how to steer. Then I bless you,' he said making a sign of the cross, 'and off you go.'"

Then on to the next event in Stark's Plimptonian Olympics: downhill racing in "Fear of Falling." U.S. downhill skier Mike Brown "describes a 'little rise' that a downhiller must make: 'from the fear that 80 miles per hour is too fast, to the fear that 80's not fast enough.'

"I was nowhere near Brown's 'little rise,'" Stark concludes, despite the downhill medals of his youth. "My main concern was still how to slow down."

As an ice diver and climber I share much of Stark's fascination with the medium, but three essays in a row detailing the experience of speed on a frosted incline and my enthusiasm starts to flag. "The Dean of Flow," then, is a welcome shift. The dean is Doug Coombs, a world-class skier who provides Stark with the fine points of his craft—style, not speed. Stark comes away with notes on mountain reading, route finding, tempo, pacing, flow. Coombs advises "skiing the shadows"—the unspoiled margins of a route. "Let the mountain suggest your style rather

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than forcing your style on it," he advises.

With this, Stark turns to arctic travel. In "Driving to Greenland," he takes to the road in a '74 VW van. Switching to the air in Yellowknife, Northwest Territories, he and his wife soon arrive in Qaanaaq, Greenland, 800 miles from the North Pole. The town's "dirt streets are neatly kept, its colorful, steep-roofed houses evoking a Nordic fishing village, yet in the yards stand dogsleds, needle-thin kayaks of hand-stitched canvas, and game-butchering platforms caked with blood."

Thence to hike the glaciers and lava fields of Iceland in "Land of Fire and Ice." We learn that this Ohio-size island has produced, since 1500, an estimated one-third of the world's lava, and that U.S. astronauts trained for their moon landing here. A born anthropologist, Stark has an eye for cultural miscellany: "Gretar Einarsson demonstrated the traditional method of catching grounded seabirds, a technique that involves a stunning kick to the head and a quick bite to the soft part of the bird's skull." He notes the surreal "puffin net, a bit like a butterfly net with a long handle, used by hunters who hide on cliff tops, waiting for passing birds."

There follows a wonderful treatise on the Eskimo kayak: "A Kinde of Strange Fishe." Reminiscent of John McPhee's *The Survival of the Bark Canoe*, this piece may be the best of the collection. In the company of native Greenlanders, Stark leaves the island of Qeqertarssuaq (try to spell that one without a second look) on a three-day outing for narwhal. Stark describes the group waiting patiently for the whales on an ice floe: "Mamarut sharpened his harpoon; his girlfriend, Tukummeq Peary—a great-granddaughter of Robert Peary—chewed a piece of sealskin to soften it for a pair of boots; and I poked my head into the cockpit of Sigdluk's kayak. . . . His had a spare, simple, elegant design with knifelike bow and stern, and low, slightly sweeping deck, that reminded me of the thinnest sliver of the new moon. . . . He'd painted it light gray to mimic the skin tone of a narwhal calf."

Stark cites a theory that the kayak was invented 9,000 years ago near Alaska's Aleutian Islands. "Unlike our rigid-hulled ships, the elastic membrane of the Aleut kayak was supported by an ingenious skeleton that included a jointed three-piece keel. Both the skeleton and the keel were equipped with as

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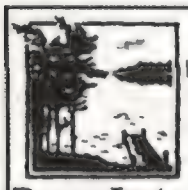
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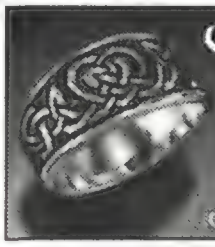
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In "A Short Stroll in the Firnspiegel" Stark delivers a lively discourse on the formation and classification of snow. There is "living room furniture"—a "particularly soft, comfortable, pillowy type of powder"—"Cold Smoke" and "Styrofoam," "Cinnamon Rolls" and "Snirt," the latter an often rock-hard combination of windblown snow and dirt. There is "boilerplate" and "black ice," "sugar snow" and "cauliflower." And, Stark goes on to promise, "beyond its beauty, you'll find few more satisfying remedies for pent-up frustration than a short stroll in firnspiegel; its chattering and tinkling give you the illusion of stomping across a long tabletop of fine china."

In "The Care and Use of Perfect Ice," Stark reflects on the joys of a life of pickup hockey and the paternal satisfaction of nurturing a homemade rink. In "The Search for the Perfect Sled" he and a friend do precisely that. Closing the collection with "The Ice League," Stark charts one full winter season of activity on the lake of his childhood.

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Andrew Todhunter is a freelance writer based in San Anselmo, California.

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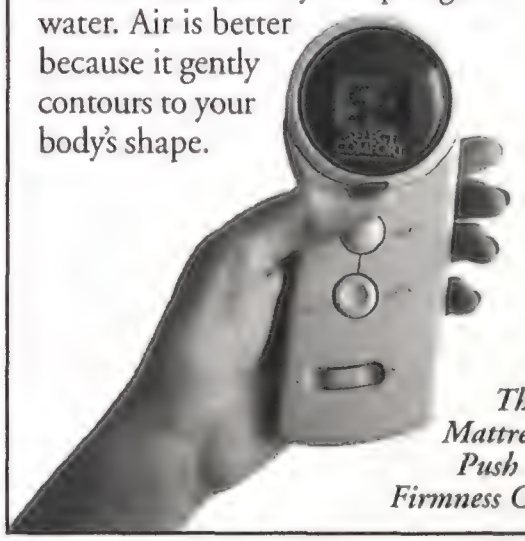

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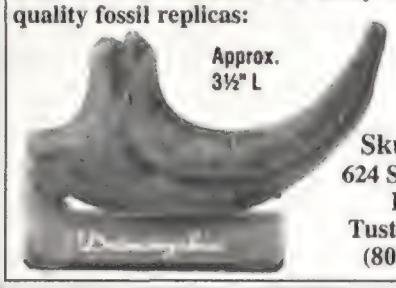

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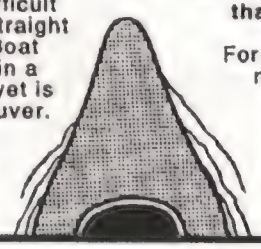

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Additional Reading

The Hermitage (p. 40)

Great Art Treasures of the Hermitage Museum, St. Petersburg (2 vols.), edited by Vitaly Suslov, Harry N. Abrams, 1994

Hidden Treasures Revealed: Impressionist Masterpieces and Other Important French Paintings Preserved by the State Hermitage Museum, St. Petersburg by Albert Kostenevich, Harry N. Abrams, 1995

"To Return or Not to Return" by Konstantin Akinsha and Grigorii Kozlov, *ARTnews*, October 1994

"Hollow laughter" by Viktoria Markova, *Art Newspaper*, July-September 1994

"Russia's Secret Spoils of World War II" by Robert Hughes, *Time*, October 17, 1994

Boat race (p. 58)

Out There by George Day and Herb McCormick, Seven Seas Press (Newport, Rhode Island), 1983

Chasing the Long Rainbow by Hal Roth, W.W. Norton, 1990

The Voyage of American Promise by Dodge Morgan, Houghton Mifflin, 1989

Chimpanzees (p. 70)

"Research on Mothering Behaviors in Chimpanzees Advances Nursery Care of Young Apes," *Inside Yerkes*, Fall 1994

"Orientation to Social and Nonsocial Stimuli in Neonatal Chimpanzees and Humans," by Kim Bard et al., *Infant Behavior and Development*, Vol. 15, 1992

"Parenting in Primates" by Kim Bard, *Handbook of Parenting*, edited by M. Bornstein, Lawrence Erlbaum Associates (Hillsdale, New Jersey), in press

Desert flowers (p. 78)

Seasons of the Wind: A Naturalist's Look at the Plant Life of Southwestern Sand

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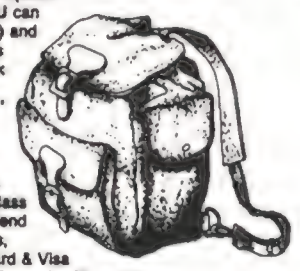

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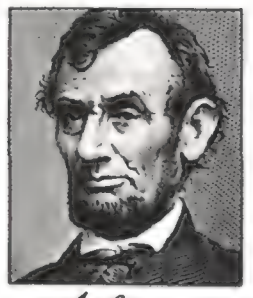

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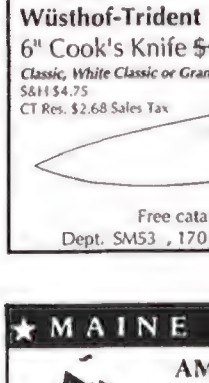

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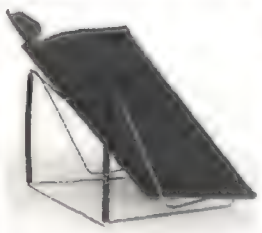

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Dunes by Janice Emily Bowers, Northland Press (Flagstaff, Arizona), 1986

A Field Guide to Southwestern and Texas Wildflowers by Theodore F. Niehaus et al., Houghton Mifflin, 1984

The Ecology of Desert Communities, edited by Gary A. Polis, University of Arizona Press (Tucson), 1991

Desert Wildflowers by Edmund C. Jaeger, Stanford University Press (Palo Alto, California), 1969

Merchant Ivory (p. 94)

The Films of Merchant Ivory by Robert Emmet Long, Harry N. Abrams, 1991

Merchant Ivory's English Landscape: Rooms, Views, and Anglo-Saxon Attitudes by John Pym, foreword by James Ivory, Harry N. Abrams, 1995

Pleasure and Privilege: Life in France, Naples, and America, 1770-1790 by Olivier Bernier, Doubleday, 1981

Ismail Merchant's Passionate Meals by Ismail Merchant, Hyperion, 1994

Thomas Jefferson: An Intimate History by Fawn M. Brodie, W.W. Norton, 1974

Trial by jury (p. 108)

A Treatise on Trial by Jury by John Proffatt, Sumner Whitney and Company (San Francisco), 1877

The Historical Development of the Jury System by Maximus A. Lesser, William S. Hein (Buffalo), 1992

We the Jury: Justice and the Democratic Ideal by Jeffrey Abramson, Basic Books, 1994

Howe and Hummel: Criminal Lawyers by Richard H. Rovere, Paperback Library, 1947

The Trial Jury in England, France, Germany 1700-1900, edited by A. P. Schioppa, Duncker & Humblot (Berlin), 1987

Playing-card quilts (p. 119)

Art Quilts: Playing With a Full Deck (exhibition catalog) by Sue Pierce and Verna Suit, Pomegranate Artbooks, 1995

The Art Quilt by Penny McMorris and Michael Kile, Quilt Digest Press (San Francisco), 1986

Edwin Cohn (p. 124)

Blood, Pure and Eloquent: A Story of Discovery of People, and of Ideas by Maxwell M. Wintrobe, McGraw-Hill, 1980

"You May Be Drafted To Give Blood" by John Lear, *Collier's*, March 10, 1951

"Blood: Research Has Made It Raw Material for Spectacular New Products," *Life*, March 2, 1945

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Chinese Art (Beijing, Xi'an, Shanghai and Hong Kong) *May 22-June 8*

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Civil War Conference (Harpers Ferry, West Virginia) *June 15-18*

Whistler (Washington, D.C.) *June 15-18*

Sequoia National Park (California) *June 17-22 or June 24-29*

Paris Visions (France) *June 19-29*

Chautauqua Institution (Chautauqua, New York) *July 9-15*

The Manhattan Project (Los Alamos, New Mexico) *July 12-17*

Ireland Photography *July 18-27 or July 28-August 6*

Astronomy (Honolulu and Hilo, Hawaii) *July 23-27*

Carmel Bach Festival (California) *July 28-August 2*

Berkshire Performing Arts (Stockbridge, Massachusetts) *August 14-18*

Cuisines of the Pacific Northwest (Seattle, Washington) *August 22-27*

Telluride Film Festival (Colorado) *August 31-September 5*

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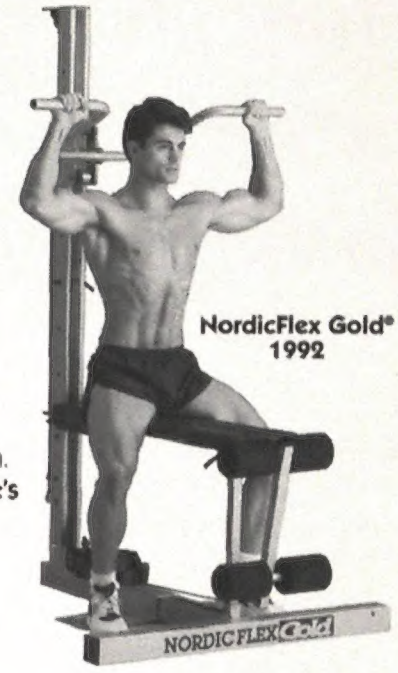
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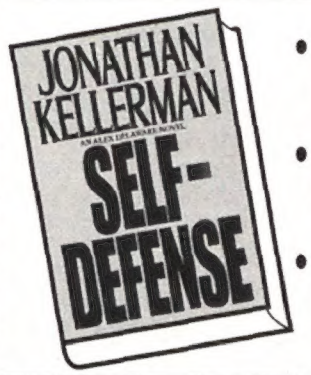

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By Daniel Pinkwater

How my military career came off without a hitch

I looked up to and emulated my older brother, Marlowe. I wanted to be just like him. When I was a first-grader, Marlowe was a captain in the high school ROTC and got to wear a shiny sword on parade. It goes without saying that I wanted one, too. Later, in the Illinois National Guard, Marlowe chose not to accept a commission. Instead he rose to the rank of master sergeant. I think his decision was based in part on the fact that he looked right as a sergeant, chunky and broad-beamed. He was happy in the company office, chewing a cigar and making sure his men got ice cream in the field on maneuvers.

By the time I hit high school, cadet officers were no longer being issued swords, which was a disappointment to me. Like my noncom brother, I did no extra-credit work and remained among the ranks. Of course, having been drilled by Marlowe from the age of 6, I was versed in the manual of arms, parade ground commands and military courtesy, science and tactics. I knew by heart the names of the parts of the M1 rifle, its weight, muzzle velocity and aspects of its trajectory. I also knew how to field-strip it as well as I knew how to button my coat.

As a result of being overprepared, I found the ROTC course a trifle tedious. Also, I regret to say that the intellectual level of my fellow cadets was not impressive. It was peacetime, and unlike the period during which Marlowe had been a cadet in that very school, patriotic fervor was at a low ebb. Most of the students who signed up for ROTC in my day hoped to qualify for entrance to the Army with an eye toward a secure career—and it was painfully obvious to me that some of them were not going to make it.

Sergeant France and Sergeant Gunderson, the ROTC teachers, were fine men, and they worked hard to make something of the little cadet corps. Periodically, we'd have an exam. Numbered answers to the numbered questions would be written on a blackboard and remain there during the test. Still, more than half of the kids would fail to get a passing grade.

I remember those winter mornings in the overheated basement of the high school. The swirling fragrances of hot grease from the lunchroom and chlorine from the swimming pool, also located in the basement, would mix with the peculiar smell of soap and paint in the ROTC room. We would march up and down on the linoleum floor, or Sergeant Gunderson might drone on about sanitation in the field, while I struggled to keep my eyes open. It was a good introduction to military life, which is to say it was boredom beyond endurance.

One of the things I learned in ROTC at Lake View High School in Chicago was that the uniform I had been issued was of the maximum size, circumferentially, kept in stock by the U.S. Army. It consisted of even more wool serge than my brother's uniform at the peak of his military career.

A few years later, when I made my way to an induction center, as directed by a draft notice, I had grown at least two sizes fatter and I suspected that my appearance would be entirely pro forma. Unless the Army had instituted a human-tank or land-blimp battalion, it was questionable whether they'd have any use for me.

I had graduated from college by then and moved to New York, so it was to Whitehall Street in Lower Manhattan that I had to report. Dawn was just breaking over New York Harbor when I got off the bus. The narrow streets were deserted, and I found the architecture of the oldest part of the city so fascinating that I decided to take a walk. There was no point in being precisely on time—they were sure to be milling around and getting organized for the first half-hour or so.

The walk was exhilarating. The morning sun glinted on the tall buildings, and a salt breeze came off the water. By the time I reported for induction I was in a good mood.

Instantly, I was struck by familiar things: the overheated rooms, the G.I. colors, the linoleum, the sleepy-eyed noncoms, that smell. I was transported back to my old Chicago ROTC room. I experienced a feeling of happy nostalgia. I can handle this, I thought. If the Army could accommodate me with a big enough suit, I could accommodate the Army.

I entered a room in which inductees were sitting on benches and facing a podium at which a sergeant was addressing them about something or other. The first bench was entirely empty. I took a place, front and center.

"Please excuse me for being late," I said to the sergeant, smiling. "I took a little walk."

"What?" The sergeant glowered darkly at me.

"It's such a nice morning. I hope I didn't miss anything."

"What's your name? Sit over there and wait for the psychiatrist."

The Army psychiatrist was very nice. He explained to me that not everyone can be a soldier, and that I oughtn't to feel bad.

I told him I was not disappointed, and that, in a way, I felt as though I'd already had the experience. Then, excused, I went outside into the bright morning sunlight.

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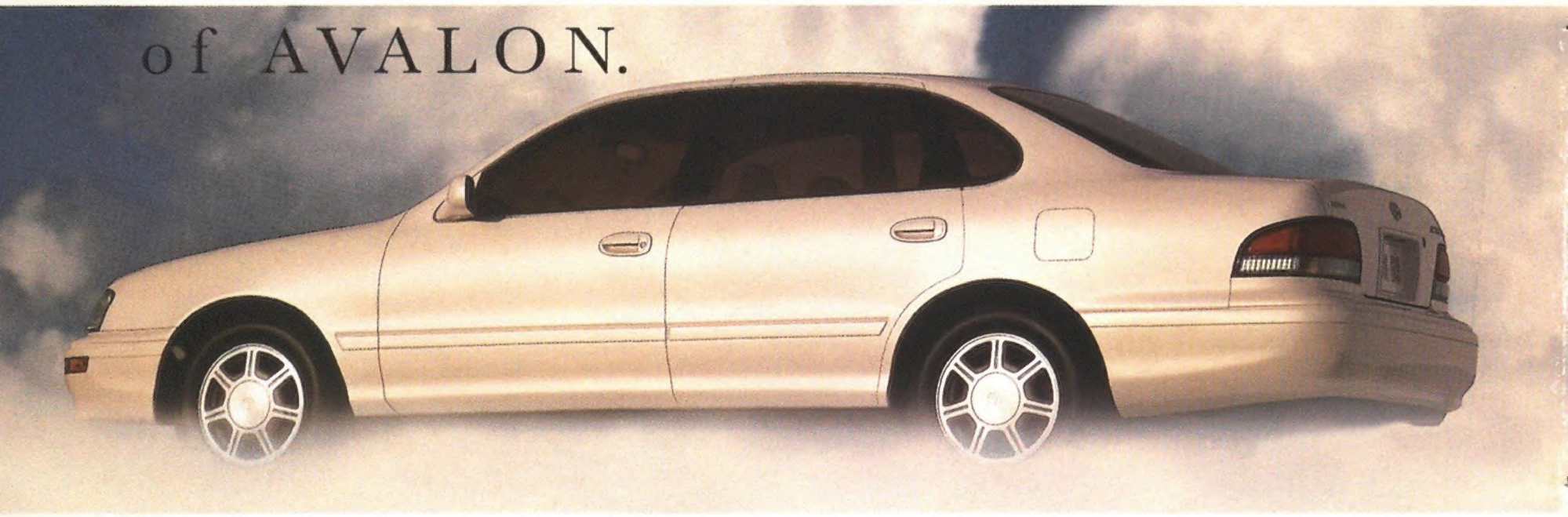

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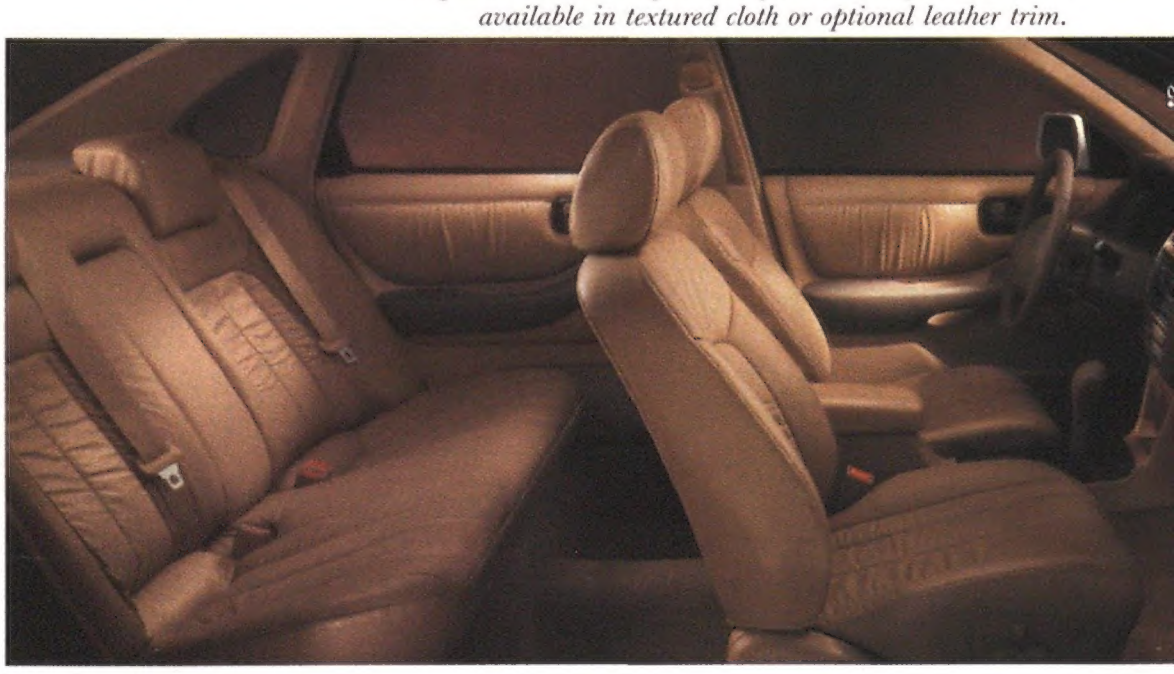

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